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(54) Title: **SHORT CHAIN DEHYDROGENASES/REDUCTASES (SDR)**

(57) Abstract: The present invention relates to a method for identifying or verifying members of the short chain dehydrogenase (SDR) family, to a method for providing modulators for members of the SDR family and to the preparation of pharmaceutical agents using these modulators.

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Short chain dehydrogenases/reductases (SDR)**Description**

5 The present invention relates to a method for identifying or verifying members of the short chain dehydrogenase (SDR) family, to identified SDRs, to a method for providing modulators for members of the SDR family and to the preparation of pharmaceutical agents using these modulators.

Technical Background

10 The short chain dehydrogenase/reductase (SDR) protein family (H. Jörnvall et al., Biochemistry 34 (1995), 6003-6013) is an old conserved protein family, the members of which show a residue identity level of only 20-30%. However, it has been found that the three-dimensional structure of members of the SDR family are highly similar, determining their functions and affiliation to the SDR family (U. Oppermann et al., Enzymology and Molecular Biology of Carbonyl Metabolism 6, Weiner et al. eds., Plenum Press, New York (1996), p. 403-415).

20 While initially only two structures of SDR enzymes restricted to bacterial and insect enzymes have been discovered, rapid progress on the knowledge of short chain dehydrogenases/reductases resulted in an increasing number of structures, which could be assigned to the SDR family. Currently, about 1.600 putative members are known, from which up to 100 may be derived from human, such as hydroxysteroid dehydrogenases (HSD).

30 An approach to identify SDR proteins is described in W.N. Grundy et al., Biochemical and Biophysical Research Communications 231 (1997) 760-766 and in T.L. Bailey et al., J. Steroid Biochem. Molec. Biol. 62 (1) (1997)

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29-44. Therein homologies are searched for via a hidden Markov model, i.e. a self-training model, and thus classified to a certain protein family. A classification based on the function is not made in these models.

5 Since the SDR enzymes are involved in various metabolic pathways and show different activities, such as oxidoreductases, lyases, or epimerases and, as discussed above, show only a low identity of 20-30%, it has been difficult, to assign new members unambiguously to the SDR family and to find modulators therefor.

10 However, since HSD and other SDR play a critical role in higher vertebrates, it is desirable to discover further members of the SDR family and establish modulators for known and new SDR enzymes.

15 It was therefore an object of the present invention to provide an algorithm which allows for the identification or verification of SDR family members with high confidence levels.

It was a further object of the invention to provide an algorithm which
20 provides a search hierarchy with various levels.

It was another object of the present invention to provide modulators for SDR family members.

25 Still another object of the invention was to provide pharmaceutical agents based on members of the SDR family.

Summary of the invention

30 The present invention relates to a method for identifying or verifying members of the short chain dehydrogenase (SDR) family based on an algorithm using core SDR motifs for searching members of the SDR family.

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Further, the present invention relates to a method for providing modulators for such members of the short chain dehydrogenase (SDR) family, which enhance or inhibit the activity therefrom as well as a method for providing a pharmaceutical agent using modulators for members of the SDR family.

In particular the present invention provides a combination of the steps (i) screening databases to search and find SDR sequences, (ii) store the data on an appropriate medium, rank and validate the hits and (iii) using the SDR sequences found to develop new drugs.

Detailed description of the invention

Members of the SDR protein family have a common core sequence, which is about 250-350, preferably about 260-290 and in particular about 270 amino acids in length. SDR proteins can have extensions at the N-terminus and/or at the C-terminus. Typically, these extensions have a length of 20 to several hundred, in particular up to 500 amino acids. These extensions can be membrane anchors or other signals or they can constitute completely distinct protein domains. Therefore, according to the invention it is primarily searched for SDR core domains, the rest of the protein being analysed only later on.

In a first embodiment the invention provides a method for identifying or verifying members of the short chain dehydrogenase (SDR) family comprising the steps

- (a) providing a target sequence of molecules to be classified,
- (b) comparing said target sequence with core SDR motifs selected from
 - (i) MV1 being derived from the motif MT1: TGxxxGxG by replacement of 0 to 2 amino acids,
 - (ii) MT2: NN(0-2:x)AG,
 - (iii) MT3: N, located at a position 90-110 relative to MT1,

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- (iv) MV4 being derived from the motif
MT4:S(11-52:x)YxxxK by replacement of 0-2 amino
acids and
- (v) MT5:PG,
- 5 (c) determining positive SDR candidates containing
 - (i) at least the core SDR motifs MV1 and MV4 and
 - (ii) at least 7 of the 14 amino acids contained in the motifs
MT1, MT2, MT3, MT4 and MT5 and
- (d) classifying positive SDR candidates as belonging to the SDR
10 family.

It has been found in many SDR proteins that several motifs of the SDR
core domain often occur in combination. However, it is not obligatory that
all SDR core motifs are present for a protein to be an SDR enzyme. Since
15 SDR proteins may lack one or several of the core SDR motifs, they may not
be found by simple comparison of the complete SDR core domains.

Within the SDR core the following functional motifs frequently are found.
The motifs are given in order from N-terminus to C-terminus assigning a
20 position number 0 to the start of the first motif MT1, which of course need
not be the start of the complete SDR protein.

MT1: TGxxxGxG (circa position 0-7);

MT2: NNAG (circa position 75-78);

25 MT3: N (circa position 100);

MT4: S-Y-K (circa positions 128/142/146) and

MT5: PG (circa position 170/171).

Using these motifs, the algorithm according to the invention has been
30 developed, which allows for an assignment of target sequences to be an
SDR sequence with a confidence level of more than 95%, in particular
more than 98%. By relying on motifs of the core SDR region positive hits

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due to identity in non significant regions can be excluded. It is essential for the present invention that the core SDR motifs were selected because of their functional meaning and not only because of homology comparisons. The SDR motifs used form essential parts of nucleotide co-factor binding region (Rossmann-fold) and the active site of members of the SDR family. The motifs MT1 and MT2 represent components of the co-factor binding site. A particular co-factor of SDR enzymes is NAD(P)(H). The motif MT3 represents a contact to the active site and the motif MT4 a part of the active site. The motif MT5 is of functional importance due to its proximity to the co-factor. Thus core SDR motifs are motifs which are essential for the functionality of the SDRs.

For detecting members of the short chain dehydrogenase (SDR) family in the method according to the invention it is therefore essential that functional aspects are considered, wherein enzymatically active SDRs are detected and not only sequences which exhibit a certain homology to other SDRs at functionally irrelevant positions.

Contrary to prior art algorithms, according to the invention those amino acids are taken into account which are essential for the function. A minimum amount of the amino acids selected thus enables a maximum amount of targets due to the divergence of the SDR family, wherein the detection of erroneously positive targets is basically excluded because of the connection between function and structure. This way the target specificity can be considerably improved over algorithms, such as neuronal networks, which are based on homology comparisons (cf. J.A Gerlt et al., Genome Biology, 1 (5) (2000), Reviews 0005.1-0005.10). In addition, further functional information can be easily included in order to screen for functional deficits, such as screening for an associated disease mutations or individualized drug metabolism.

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While the individual proteins assigned to the SDR family using the algorithm of the invention may have identities of only 30% or less, they show a very similar three-dimensional structure. It is important for the correct formation of the desired three-dimensional SDR structure that motifs 1 to 5 are present in the above listed succession.

For the description of the motifs the single letter amino acid code is used. x denotes a variable amino acid, selected preferably from the 20 naturally occurring amino acids. NN(0-2:x)AG means that 0, 1 or 2 amino acids can be positioned between amino acids N and A. S(11-52:x)YxxxK means that from 11 to 52 amino acids are positioned between S and Y and 3 amino acids are positioned between Y and K.

A replacement of 0-2 amino acids refers to a replacement of any of the amino acids given (including x), whereby preferably the explicitly named amino acids are replaced. A replacement includes deletion of the amino acid or a substitution of the amino acid by another amino acid selected preferably from the 20 naturally occurring amino acids. The replacement of 1 or 2 amino acids results in a fuzzy logic including also sequences, in which the motifs are not 100% conserved. A strategy combining sequence and structure information is also disclosed by L. Yu et al., Protein Science 7 (1998), 2499-2510.

In a preferred embodiment of the invention MT2 is defined to be NNAG (i.e. without any amino acids x between NN and AG), but with possible replacement of 1-3 amino acids.

The motif MT3:N is located at position 90-110, preferably at position 95-105 and in particular at position 100 relative to the start of the motif MT1.

In a particularly preferred embodiment of the invention the second part of motif MT4 is defined to be the pattern YxASK with possible replacement of

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up to 3 of these residues. In this preferred embodiment the range of possible scores is extended from 0-14 up to 0-16. In this embodiment positive candidates have a score of at least 7, preferably at least 9, more preferably at least 11 and most preferably at least 13.

5

Preferably the SDR motifs are located in the order given from the N-terminus to the C-terminus for a sequence to be classified as SDR sequence. The positions given in brackets above may be shifted by amino acid insertions or deletions within the sequence analyzed. Preferably the motifs are found within ± 50 , more preferably ± 20 positions, in particular ± 10 positions and most preferably ± 5 positions, from the values given.

10

A target sequence is classified as belonging to the SDR family according to the invention, if it contains at least the core SDR motifs MV1 and MV4 and at least 7 of the 14 explicitly named amino acids contained in the motifs MT1, MT2, MT3, MT4 and MT5. The confidence level can be controlled by varying the amount of matching amino acids, which have to be present in the target sequence. Therefore, if a high confidence level, e.g. $> 98\%$, more preferably $> 99\%$ is desired, it may be preferable to classify target sequences as positive SDR candidates, only if they contain at least 9 of the 14 amino acids, or even at least 11 or at least 12 of the 14 amino acids contained in the motifs MT1-MT5. Setting the score at a value of at least 13 results in the detection of exclusively sequences, which are an SDR with a confidence level of almost 100%, e.g. $> 99.8\%$.

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In a preferred implementation of the method of the invention a file is provided containing a set of protein amino acid sequences, the input set. One sequence is taken from the input set, the query sequence. The implementation then passes the query sequence to the algorithm, which examines it for occurrences of some or all of MT1-5 in the arrangements allowed. The algorithm returns a list of the best possible combinations of

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occurrences. If the matches contain more than a specified number of amino acids from MT1-5, they are assigned as hits.

5 In a particularly preferred embodiment the method of the invention is as follows:

The algorithm first searches the whole sequence for instances of the first motif MT1, allowing for up to two replacements as described. Each possible MT1 match is then taken as the origin for searches for the motifs
10 MT2 to MT5 whose positions are defined relative to the position of MT1. A data structure based on each position of MT1 is created, which will be used to store the positions of other motifs relative to this MT1.

For a given MT1 match at position P, the preferred position of the motif
15 MT2 is $P + 75$. According to the rules MT2 is preferably at position $(P + 75) + /-50$, more preferably $(P + 75) + /-20$. This defines a window on the sequence within which instances of the motif MT2 are searched for, including any variants of MT2 with up to three replacements. Since the size of the window affects the time taken to search and the quality of the
20 matches found, the preferred implementation allows the window sizes to be specified for each search. Any possible matches within the window are added to the result data structure as children of the current MT1.

The procedure is then repeated for instances of MT3, where the window is
25 $(P + 100) + /-50$, more preferably $(P + 100) + /-20$, or any other specified window size. Again, any results found within the allowed window are added to the result data structure as children of the current MT1.

The same procedure is then followed for MT4, with a window $(P + 128) + /-50$, more preferably $(P + 128) + /-20$, or any other specified window size. In
30 this case the window only specifies the position of the Serine residue of MT4, and once a candidate Serine has been found at position P_s (and

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added to the result structure as a child of the current MT1), it defines a window $P_s + (11-52)$, within which instances of the second part of MT4 are searched for, allowing for replacements. Any candidates are added to the result structure as children of the current Serine match.

5

Since MT4 allows replacements, and those replacements could include replacements of the Serine, the implementation additionally searches for the second part for MT4 in cases where the Serine is not found. In this case, a virtual window composed of all of the possible positions of the (missing) Serine, offset by the $P_s + (11-52)$, is constructed $[P_s + (11-52) +/-20]$, i.e. the range $P + 128 + (11-20)$ to $P + 128 + (52+20)$, or likewise for any specified window size. If any instances of the second part are found they are added to the result data structure as children of the current MT1.

15 The procedure is then repeated for instances of MT5, where the window is $(P + 170) +/-50$, more preferably $(P + 170) +/-20$, or any other specified window size. Again, any results found within the allowed window are added to the result data structure as children of the current MT1.

20 At this stage the implementation holds in memory a tree-structured data structure where the possible matches with the specified pattern correspond to depth-first traversals of the tree. The implementation enumerates the possible combinations of the full or partial motifs, adds up a score calculated from the number of residues in the motifs which were actually
25 matched, and discards the instances where the overlapping windows have given rise to motifs where the ordering is not MT1-MT2-MT3-MT4-MT5. Any combination with a score equal to the maximum score found is kept and added to a list, and it is this list with its score, the motifs found, and the position in the sequence of each amino acid matched which is returned
30 as the result at this stage of the implementation.

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The preferred implementation includes significant enhancements, in particular:

- MT2 is defined to be NNAG without the presence of 1 or 2 amino acid insertions between the NN and AG parts. The implementation allows for replacement of 1-3 of the residues, and will continue to search for other motifs even if no instance of MT2 is found.
- The second part of MT4 is defined to be the pattern Y*ASK instead of Y**K, but again the implementation allows replacement of up to 3 of these residues. This makes the range of possible scores 0-16 instead of 0-14.
- The absence of motif MT4 is not used to discard SDR candidates, but the effect on the overall score of its absence (5 out of a possible 16 matches) is significant in excluding matches which do not contain it and additionally the presence of the active site MT4 tyrosine is indicated for each result, as a significant indicator of possible SDR catalytic activity.

In a further preferred embodiment an enlargement or optimization, of the algorithm is performed also on human extended SDRs. Thus it is taken into account that compared to the other SDRs often only a motif MT_x1 (TGxxGxxG) as well as a motif MT_x4 (YxxxK) is present, wherein MT_x1 is a variant of TGxxxGxG. For determining human extended SDRs with this enlarged algorithm motifs 2, 3 and 5 can even be missing.

In a particularly preferred embodiment the algorithm according to the invention comprises the import of a data set, e.g. from data bases, organizing the data set by using the method according to the invention, ranking the SDR hits and further analyzing and managing the data of the detected hits, such as a cross-linking to data bases, to BLAST or to other tools.

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Subject matter of the invention is also a data carrier, particularly a diskette containing the method according to the invention and particularly the above described algorithm.

5 Whereas the method according to the invention itself already has a very high specificity and reliability in the selection of SDR candidates, the SDR candidates detected can be subjected to further evaluation criteria. These criteria are e.g. comparing the 3D-structure of the candidates detected with the 3D-structure of known SDR proteins or a standardized 3D-
10 structure, which is derived from SDR candidates identified by the method according to the invention. Thus, in a further preferred embodiment of the invention the polypeptides classified as positive SDR candidates in the method according to the invention are subjected to another evaluation step in view of their three-dimensional structure in order to further improve the
15 selectivity and specificity of the method. Thus it is possible to use known three-dimensional structures of SDR family members (cf. e.g. H. Jörnvall, Biochemistry 34 (1995), 6003-6013; U. Oppermann et al., Adv. Exp. Meth. Biol. 414 (1997), 403-415 or J. Benach et al., J. Mol. Biol. 282 (1998), 383-399). However, it is also possible to determine the three-
20 dimensional structures of the SDR candidates detected with the method according to the invention and to prepare a common comparative three-dimensional structure therefrom. This way it can be examined, e.g. whether the positive SDR candidates exhibit the co-factor binding site typical of SDRs. A further criteria may be the presence of amino acid Y at
25 position 152 ± 20 , particularly ± 10 . Further, it is possible to compare the amino acids sequences detected with known SDR sequences, e.g. via an alignment.

After the sequences have been classified as SDRs it is also possible to
30 search for further domains, e.g. membrane domains in order to thus classify them to a certain type of tissue.

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An important subgroup of SDRs are FabGs, which are derived from pathogens and which can be identified via the method according to the invention. Since FabGs are often strongly degenerated and thus exhibit a relatively low score (e.g. 9 or more) in the method according to the invention, it can be advantageous to examine possible FabG-SDR candidates in a second step in view of the presence of the following motif variations: MT₂:VxVNNAG, wherein V can be replaced particularly by I, as well as MT₅:PGFI, wherein F and/or I can be missing.

A list of FabG proteins which were identified by the method according to the invention is shown in Table 4. FabGs are involved in the lipid metabolism of bacteria and are particularly suitable for the development of antibiotics.

A further group of SDRs which can be identified by the method according to the invention are bacterial SDRs. Bacterial SDRs detected with the algorithm according to the invention are shown in Table 3.

Further, it is possible to detect production enzymes as well as thermostable enzymes with the method according to the invention.

In a most preferred embodiment, the so-called SDR_Finder, the method according to the invention is based on the implementation of functional data both on the three-dimensional structure and on the biological function (NADP(H)-dependent enzymes). The implementation is hierarchically structured according to the smallest common denominator having a functional meaning. Contrary to known tools not motifs, but SDR candidates are searched for and thus also for those having a very low homology or hardly conserved core motifs, respectively. The search for SDR candidates according to the invention enables a considerably higher specificity. The SDR candidates detected are of biologically functional

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relevance. At the same time a greater number of hits is found due to the use of the smallest common denominator.

Further, it is possible to establish a ranking with the algorithm according to the invention, to export the data in different formats and to selectively
5 search for species. Thus, the SDR_Finder represents an "all-in-one" analysis solution including various obtainable possibilities, particularly the worldwide web. The implementation of hyperlinks to NCBI, EMBL and their tools (e.g. Blast, ClustalW, Pfam, PDB, Medline, OMIN) represents an "in
10 silico" analysis/drug development software of modular structure which is particularly developed for SDR. Further modules which can be connected thereto are the examination of three-dimensional structures, the determination of active centres and the substrate docking simulation. The latter can also be implemented directly into the SDR_Finder and allow
15 direct access, e.g. to 3D-databases and chemical libraries via the worldwide web.

In a preferred embodiment the SDR_Finder is equipped with fuzzy logic.

20 In addition, experimental data can be used, e.g. to evaluate the exchange of one amino acid in a motif regarding the functional consequences. This is of importance both for the individual adjustment of therapies and the evaluation of pathological problems or for the development of diagnostica, respectively.

25

Moreover, it is possible to enlarge the algorithm subgroup-specifically, as is shown herein for the FabG_SDRs.

30 The method according to the invention can be used to verify sequences, which are already classified as (putative) SDR sequences, e.g. by automatic alignment (BLAST), to belong to the SDR family or not. Further, it can be used to search for and find new members of the SDR family or to

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search for and find new isoforms of SDR proteins. Therefore, the method of the invention provides additional information with regard to known sequences as well as to novel sequences. From the knowledge that a target sequence belongs to the SDR family as well as from the information obtained from the ranking findings about substrates and functions can be obtained. An important selection criteria thereby is the drugability of the SDR candidates detected.

The method according according to the invention can be used to detect e.g. human SDRs (human extended SDRs), animal SDRs, particularly mammalian SDRs, but also bacterial SDRs, FabG_SDRs, fungi SDRs, SDRs of pathogens, SDRs of parasites, e.g. plant parasites.

The SDR proteins classified with the algorithm according to the invention thus can serve as platform for novel drug development. Human SDR proteins can particularly serve as starting point for the treatment of diseases or malfunctions of the body, whereas bacterial SDRs particularly provide a starting point for the development of novel antibiotics. Further, respective SDRs can serve for the development of antimicotica, pesticides, herbicides etc...

While the algorithm of the present invention preferably is used to search for protein sequences, it is also possible the convert the motifs given into nucleic acid sequences and screen nucleic acid databases. A method to convert amino acid sequences into nucleic acid sequences while considering the degeneration of the genetic code is e.g. given from H. Jörnvall, FEBS Letters 456 (1999), 85-88. A search on the nucleic acid level can preferably be used to preselect sequences, which are then confirmed by an alignment in the protein level.

For the search on nucleic acid level these protein sequences are preferably converted to DNA sequences in particular cDNA sequences and used for

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the detection of further SDR candidates via a fuzzy logic or a hidden Markov model or via neuronal networks.

5 The method of the invention therefore also provides a tool for preselection of SDR candidates on the genomic level.

Preferably a ranking of the positive SDR candidate is performed e.g. according to the number of amino acids matching with motifs MT1-MT5. This way a hierarchy and/or an evolutionary relationship of the obtained
10 SDR candidates can be obtained.

In a particularly preferred embodiment the target sequences classified as positive SDR candidates contain at least the core SDR motifs MT1 and MT4.
15

By hierarchically classifying the verification of the individual core SDR motifs several levels to detect SDR proteins can be obtained.

By using the algorithm according to the invention the search for SDR
20 candidates and consequently the development of pharmaceuticals can be decisively enhanced. So far for the production of pharmaceuticals in vitro tissue cultures were admixed with different substrates. From cultures, wherein a certain substrate was converted, the target protein was isolated. According to the invention, this step and thus the knowledge of a
25 substrate for the development of inhibitors or for the development of pharmaceuticals is not necessary. Moreover, starting from the sequence found a modulator, in particular an inhibitor or activator can be derived. This modulator can e.g. be derived from known modulators of other, in particular of related SDR proteins, suitable substrates, related functions
30 and tissue distribution for 17 β HSD isoforms are described e.g. by H. Peltoketo et al., J. Molecular Endocrinology 23 (1999), 1-11. Further, it is possible to derive a modulator from the 3D-structure of the SDR sequence.

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Such a 3D-structure can be obtained experimentally, e.g. by X-ray
chrystallography or by computer based calculations, e.g. ab initio, force
field, or rule based methods. Further, by inhibiting the active site of the
SDR protein the function thereof can be determined.

5

The searching for SDR family members and ranking is also applicable to
evaluate lead-candidates for possible inhibitors or modifiers of a specific
enzyme. Leads may be derived from metabolites of evolutionary closely
related or very distant enzymes from other species, if the same metabolite
10 may not be found in the respective target organism. The evolutionary
relationship of SDRs and their distinction from MDRs (medium chain
dehydrogenase) is e.g. described by H. Jörnvall et al., FEBS Letters 445
(1999), 261-264 and AKRs (T.M. Penning, Endocrine Rev. 18(3) (1997)
281-305).

15

SDR enzymes are often involved in intermediary metabolisms, as well as in
hormone and mediator metabolisms.

20

Substrates of known SDR proteins include e.g. steroids, such as
estrone/estradiol, cortisone/cortisol and testosterone/3 α -androstenediol.
Thus, after classifying a sequence as SDR sequence functional tests for
steroid substrates result in higher hit rates.

25

Further substrates of SDR proteins are UDP-glucose, UDP-N-
actetylglucosamine, sepiapterin, dihydropteridine, R-3-OH-butyrate, dienoyl
CoA, trans-Enoyl CoA, fatty acids, L-3-OH-acyl CoA. These substrates are
particularly converted of SDR enzymes, which are involved in the
intermediary metabolism. Further substrates of SDR proteins, particularly of
SDR enzymes, which are involved in hormone, mediator and xenobiotic
30 metabolisms, are several hydroxy steroids, e.g. 3-beta-hydroxysteroids,
11-beta-hydroxy steroids or 17-beta-hydroxy steroids as well as
prostaglandines and retinoides.

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Further, searching SDRs, ranking and comparing evolutionary patterns can also be used to detect clinically relevant polymorphisms and/or single nucleotide polymorphisms (SNPs). This approach can be used to characterize diseased mechanisms as well as metabolism of xenobiotics, e.g. drug metabolism.

The identification of SDR members, ranking and comparing evolutionary patterns also allows for the identification of structure-function relationships. These structure-function relationships are a key for identification of substrates of ORFs with unknown functions.

Within a lead oriented characterization first binding of a positive SDR candidate is evaluated. Starting from the binding a modulator, e.g. an inhibitor or activator, can be developed. Useful information for developing an inhibitor can be obtained from protein sequence alignment of full-length sequences, e.g. by comparison with known SDRs. Further, valuable information can be obtained from expressed sequence tags (EST) and gene sequence comparison. The procedure using the algorithm according to the invention allows for a great reduction of possible modulator candidates to be analysed and practically excludes target sequences, which are not SDR sequences. Therefore, an analysis of the functions in vitro or in vivo can be performed with much less effort than in the state of the art due to the reduced number of compounds to be tested. While in the methods according of the state of the art often the substrate must be known, this knowledge is not essential for developing modulators or/and drugs according to the invention. It is even possible to derive possible substrates in a subsequent step from the functions of the SDR enzymes found according to the invention. Ligands can be derived according to the procedure described by G.R. Lenz et al., DDT, 5(4) (2000), 145-156.

The validation of the potential SDRs found according to the algorithm of the invention, which can be used as new targets for drug development,

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can then be performed by experimental biochemical methods, such as high-throughput function screening for function identification, ultra high-throughput screening for lead compounds, transfection assays, knock out experiments, microarrays, tissue expression, cDNA arrays or analysis of disease in animal or in vitro model systems. However, it is also possible to use virtual methods using e.g. computers for validation of the new targets, e.g. by molecular homology modelling or substrate docking simulations.

Suitable strategies include e.g. gene expression of an identified SDR protein to obtain the protein molecule and subsequently performing biological functional assays and observe the behaviour of the cell.

Alternatively, the 3D-structure may be derived from the SDR sequence and an inhibitor for the active site provided. Using the inhibitor the function of the SDR within an organism can be evaluated.

Small weight inhibitors for SDR enzymes, which can be used as starting point for developing new or modified inhibitors, in particular inhibitors for newly identified SDR enzymes include:

1) Steroidal-based inhibitors like steroid carboxylates, acrylates, enolates 3,4-and 16,17-fused ring pyrazoles, 3 alpha, 17-beta or 20-beta-spiro-oxiranes as well as steroidal spirolactones, progestins, ursodexycholate, synthetic analogs of estrone sulfate and estrone-3-amino derivatives.

2) Inhibitors based on flavonoides and dihydropterin derivatives.

3) Inhibitors based on polyphenols and derivatives of 2,3-dihydroxy-1-naphthoic acids like gossypol (1,1',6,6',7,7'-hexahydroxy-5-5'-diisopropyl-3,3'-dimethyl-2,2'-binaphthalene-8,8'-dicarbaldehyde).

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4) Inhibitors based on glycyrrhizin (3 β ,20 β)-29-hydroxy-11,29-dioxoolean-12-en-3-yl 2-O- β -D glucopyranuronosyl- α -D-glucopyranosiduronic acid) and components of enzymatically hydrolysed licorice extract like 3-O- β -D-glucoronopyranosyl-24-hydroxy-18 β -glycyrrhetic acid, 3-O- β -D-glucuronopyranosyl-18 β -glycyrrhetic acid and 3-O- β -D-glucuronopyranosyl-18 β -liquiritic acid, monoglycosylated derivatives of glycyrrhizin as well as carbenoxolone.

5) Pharmaceutically acceptable salts of the above mentioned molecules such as alkali metal (e.g. sodium), alkaline earth metal (e.g. magnesium) or ammonium as well as salts of organic carboxylic acids, such as acetic, citric, oxalic, lactic, tartaric, malic, isothionic, lactobionic, ascorbic and succinic acids; organic sulfonic acids, such as methanesulfonic, ethanesulfonic, benzenesulfonic and p-tolysulfonic acids; and inorganic acids, such as hydrochloric, sulfuric, phosphoric, and sulfamic acids.

Further candidates for inhibitors are chalcones (cf. Life Sci 68 (7) (2001) 751-761) as well as phytoestrogens (cf. Life Sci 66 (14) (2000) 1281-1291) and frenolicin and its derivatives.

Further, inhibitors can be derived from 3D-structures of the SDRs found, confirmed, identified or verified with the method of this invention, as is described e.g. by Liao et al., Structure, Vol. 9 (2001) 19-27.

Since SDR enzymes, in particular human SDR enzymes have been found to be involved in many pathways of the body, they are outstanding targets for developing new drugs. In particular human SDR enzymes have been found to be involved in intermediary metabolism, lipid mediator/hormone metabolism or xenobiotic phase I metabolism. On the other hand, SDR enzymes often constitute pathogenic factors causing diseases. Thus, e.g. the AME syndrome is associated with 11 β HSD-2, bile acid metabolism is associated with 3 β HSD, polycystic kidney disease is associated with

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Ke6(17 β HSD-8) and Alzheimer's disease is associated with ERAB(17 β HSD-10).

Further diseases which can be effected by influencing, modulating or inhibiting SDRs comprise e.g. DHPR deficiency, phenylketonuria, dienoyl CoA reductase deficiency, galactosemia III, tetrahydrobiopterine deficiency, adrenal hyperplasia, adrenogenital syndrome, 11-oxoreductase deficiency, apparent mineralocorticoid excess syndrome, ovarian/breast cancer, male pyseudohermaphroditism, Zellweger syndrome, pregnancy/ovarian cancer, polycystic kidney disease, Alzheimer's disease, retinits punctata albescens, retinitis pigmentosa, Down's syndrome, arterial hypertension, oncogenes, follicular lymphoma, hepatocarcinogenesis, aging related hormone deficiencies and immunity in general.

Since many of the SDR enzyme are bidirectional (reversible oxidoreaction) depending on the environment, it is also possible to provide a means for selectively enhance one of the enzymatic reaction, i.e. oxidation or reduction or to reverse the action observed.

Thus, providing new SDR sequences and modulators therefor, as described above, allows for the preparation of drugs or pharmaceutical agents, which can be used to control many different diseases. In particular drugs for treatment of cancer, e.g. breast cancer or prostate cancer, obesity, diabetes, fertility, osteoporosis, glucose metabolism, or conditions related to aging can be prepared. Further applications include steroid resistance, in particular estrogen resistance and glucocorticoid resistance.

Further, SDR proteins and in particular hydroxy steroid dehydrogenases (HSDs) are outstanding targets for tissue-specific modulation of hormone-dependent or sensitive diseases, e.g. cancer, in particular prostate or breast cancer.

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The present invention is in particular useful for providing a pharmaceutical agent for affecting immune regulation is provided by developing a modulator for 17 β HSD type 3, 17 β HSD type 7, 17 β HSD type 8, 17 β HSD type 10, 11 β HSD-1, CR1, UDP glucose epimerase, SDR_SRL, AF067174, AF151840, AF151844, AF0078850, Fvt-1, HEP-27, DKFZ_ORF, WWOX_ORF, or CR3, a pharmaceutical agent for affecting autoimmunity is provided by developing a modulator for 17 β HSD-3, 17 β HSD-8, 11 β HSD-1, AF057034, U89717, CR1, AF0078850, HEP-27, or CR-3, a pharmaceutical agent for wound healing or partial recovery is provided by developing a modulator for 17 β HSD-3, 17 β HSD-8, 11 β HSD-1, U89717, CR1, AF0078850, HEP-27, or CR-3, a pharmaceutical agent for treatment of leukemia is provided by developing modulators for 17- β HSD-10 or Fvt-1 or a pharmaceutical agent for apoptosis regulation is provided by developing a modulator for 17 β HSD-10, U89717, SDR_SRL; or for providing a pharmaceutical agent for affecting immune response by providing a modulator for AF016509, or providing a pharmaceutical agent for the treatment of cancer by providing modulators for AF016509, or providing a pharmaceutical agent for affecting cell growth by providing a modulator for U89717, or providing a pharmaceutical agent for the treatment of lung carcinoma by providing a modulator for SDR_SRL, or providing a pharmaceutical agent for the regulation of inflammation or vasculitis by providing a modulator for DKFZ_ORF.

The SDR candidates detected according to the invention can be used particularly for the production of inhibitors, such as antibodies on protein level or antisense on nucleic acid level. Moreover, it is possible to provide diagnostica by using the SDR candidates detected according to the invention, e.g. in order to show a malfunction.

An important aspect of the present invention in view of the development of new drugs for the diagnosis and/or treatment of a disease is that the inventive approach aims on a target family, i.e. SDRs and not on a specific

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disease. This allows for the development of a number of drugs, which all influence the same target family. By this approach the amount of experiments, effort and money necessary to develop a new drug can be significantly reduced, since many results can be used parallel for further members of the same target family leading to further new drugs for different medical applications. Further this approach allows for affecting a target which is known or suspected to be highly relevant for a person's health. In contrast to the classical approach wherein starting from a disease a suitable target must identified, this time and effort consuming procedure is not necessary with the inventive approach.

The invention is further elucidated by the following figures wherein

Fig. 1 represents the search engine for SDR candidates; The target sequence is compared to the specified core SDR motif, preferably in order from the N-terminus to the C-terminus.

Fig. 2 shows flow charts for the preferred implementation of the algorithm. Fig. 2a shows a flow chart for data processing, while Fig. 2b shows a flow chart for the algorithm.

Fig. 3 depicts the development of pharmaceuticals on the basis of the SDR search according to the invention; The combination of virtual screening and classifying sequences to belong to the SDR family with the development of new drugs, as provided herein, is an efficient novel drug development strategy. By using the search results of the virtual SDR search new targets are obtained, from which drugs can be derived by various procedures.

Fig. 4 shows an alignment of human SDRs. 39 human SDR proteins were found in a database using the algorithm according to the invention. Throughout the various SDR proteins highly conserved amino acids

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are underlaid in grey. As can be seen from this figure the motifs selected for the algorithm of the invention are present in most of the human SDRs.

5 Tab. 1 Table 1 shows human and/or vertebrate SDRs detection with the algorithm according to the invention. The detected SDRs are also subject matter of this invention. Further, Table 1 includes an EST search for each SDR detected, with which the corresponding function and localization in tissue can be
10 found or localized.

Tab.2 Table 2 shows mouse SDRs detected with the method according to the invention and the results of EST searches by using these mouse SDRs in human tissue. Thus using SDRs of
15 various species, e.g. mammals, allows for localization and identification of new SDRs, in particular human SDRs on a genomic level. A preselection and/or identification of the SDR employed can be performed with the method according to the invention.

20 Tab. 3 Table 3 shows in bacterial SDRs which were detected with the method according to the invention. Such bacterial SDRs are particularly suitable for the development of novel antibiotics.

25 Tab. 4 Table 4 shows FabG_ proteins, i.e. an SDR subgroup. It is possible with the method according to the invention specifically identify desired subgroups by selection of further criteria in a second search step.

30 Tab. 5 Table 5 shows SDRs from different fungi.

Table 1: Human and/or vertebrates SDRs in non_redundant NCBI Database**Proteins or putative proteins not annotated SDRs****>gi|14035824|emb|CAC38508.1| unnamed protein product [Homo sapiens]**

EST search:

Sequences producing significant alignments:

(bits) Value

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gi|10352047|gb|BE892079.1|BE892079 601434975F1 NIH_MGC_72 H... 1126 0.0
gi|13577989|gb|BG570336.1|BG570336 602590763F1 NIH_MGC_77 H... 1122 0.0
gi|13570346|gb|BG562694.1|BG562694 602581487F1 NIH_MGC_76 H... 1104 0.0
gi|8156043|gb|AW966207.1|AW966207 EST378280 MAGE resequence... 993 0.0
gi|13295675|gb|BG402227.1|BG402227 602465788F1 NIH_MGC_75 H... 987 0.0
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gi|1967863|gb|AA315514.1|AA315514 EST187305 Colon carcinoma... 831 0.0
gi|1957444|gb|AA305116.1|AA305116 EST176117 Colon carcinoma... 831 0.0
gi|13332753|gb|BG426247.1|BG426247 602492423F1 NIH_MGC_75 H... 797 0.0
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gi|13966961|gb|BG699051.1|BG699051 602678687F1 NIH_MGC_95 H... 720 0.0
gi|13336564|gb|BG430058.1|BG430058 602499427F1 NIH_MGC_75 H... 712 0.0

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EST Search:

Sequences producing significant alignments:

(bits) Value

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gi|10352047|gb|BE892079.1|BE892079 601434975F1 NIH_MGC_72 H... 1156 0.0
gi|11984517|gb|BF699109.1|BF699109 602126730F1 NIH_MGC_56 H... 1144 0.0
gi|6199963|gb|AW152065.1|AW152065 xf74a01.x1 NCI_CGAP_Gas4 ... 1134 0.0
gi|13570346|gb|BG562694.1|BG562694 602581487F1 NIH_MGC_76 H... 1104 0.0
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gi|13339499|gb|BG432993.1|BG432993 602495921F1 NIH_MGC_75 H... 733 0.0
gi|13966961|gb|BG699051.1|BG699051 602678687F1 NIH_MGC_95 H... 720 0.0

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>gi|14035944|emb|CAC38568.1| unnamed protein product [Homo sapiens]

EST search

Sequences producing significant alignments: (bits) Value

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gi|10718270|dbj|AV701940.1|AV701940 AV701940 ADB_Homo_sapie... 835 0.0
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gi|12102027|gb|BF796973.1|BF796973 602258193F1 NIH_MGC_85 H... 712 0.0
gi|3180757|gb|AA994212.1|AA994212 ou49b10.s1 NCI_CGAP_Br2 H... 680 0.0
gi|12672383|gb|BG165680.1|BG165680 602345187F1 NIH_MGC_89 H... 670 0.0
gi|5394770|gb|A1808204.1|A1808204 wf93f01.x1 Soares_NSF_F8... 640 0.0
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EST search

Sequences producing significant alignments: (bits) Value

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gi|14046767|gb|BG776463.1|BG776463 602663549F1 NIH_MGC_59 H... 1421 0.0
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gi|13584148|gb|BG576495.1|BG576495 602598552F1 NIH_MGC_87 H... 1405 0.0
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gi|12892303|emb|AL552940.1|AL552940 AL552940 LTI_NFL006_PL2... 1342 0.0
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gi|13574212|gb|BG566559.1|BG566559 602585587F1 NIH_MGC_76 H... 1322 0.0
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EST Search:

Sequences producing significant alignments:	(bits)	Value
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no DNA sequence available with acc # provided

- 27 -

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no DNA sequence available with acc # provided

>gi|14110769|gb|AAE57309.1| Sequence 5 from patent US 6171837

no DNA sequence available with acc # provided

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EST Search:

Sequences producing significant alignments:

(bits) Value

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gi 14568476 gb BI117575.1 BI117575	602866754F1 NIH_MGC_7 Ho...	1392	0.0
gi 13982131 gb BG706614.1 BG706614	602674104F1 NIH_MGC_96 H...	1354	0.0
gi 13976241 gb BG703674.1 BG703674	602686647F1 NIH_MGC_95 H...	1342	0.0
gi 10390490 gb BE901372.1 BE901372	601674675F1 NIH_MGC_21 H...	1326	0.0
gi 12343809 gb BF976594.1 BF976594	602244271F1 NIH_MGC_48 H...	1300	0.0
gi 11641972 gb BF568592.1 BF568592	602184218F1 NIH_MGC_42 H...	1298	0.0
gi 11970704 gb BF685296.1 BF685296	602141648F1 NIH_MGC_46 H...	1279	0.0
gi 11252161 gb BF305282.1 BF305282	601892747F1 NIH_MGC_17 H...	1279	0.0
gi 11098442 gb BF204856.1 BF204856	601867158F1 NIH_MGC_17 H...	1275	0.0
gi 9137251 gb BE263706.1 BE263706	601192146F1 NIH_MGC_7 Hom...	1251	0.0
gi 10404479 gb BE909167.1 BE909167	601501782F1 NIH_MGC_70 H...	1249	0.0
gi 11151599 gb BF237681.1 BF237681	601841865F1 NIH_MGC_46 H...	1247	0.0
gi 9156256 gb BE281240.1 BE281240	601155341F1 NIH_MGC_21 Ho...	1247	0.0
gi 12342418 gb BF975203.1 BF975203	602244705F1 NIH_MGC_48 H...	1243	0.0
gi 14058856 gb BG748203.1 BG748203	602705827F1 NIH_MGC_43 H...	1235	0.0
gi 11263622 gb BF315274.1 BF315274	601902672F1 NIH_MGC_19 H...	1211	0.0
gi 11098117 gb BF204531.1 BF204531	601868138F1 NIH_MGC_17 H...	1211	0.0
gi 9133208 gb BE313377.1 BE313377	601147921F1 NIH_MGC_19 Ho...	1209	0.0
gi 12683322 gb BG176619.1 BG176619	602313206F1 NIH_MGC_85 H...	1207	0.0
gi 9882826 dbj AV661812.1 AV661812	AV661812 GLC Homo sapien...	1205	0.0
gi 12615652 gb BG122143.1 BG122143	602349585F1 NIH_MGC_90 H...	1199	0.0
gi 11251336 gb BF304588.1 BF304588	601887980F1 NIH_MGC_17 H...	1174	0.0
gi 4536632 gb AI573258.1 AI573258	tn03e05.x1 NCI_CGAP_Brn25...	1170	0.0
gi 13032709 gb BG283133.1 BG283133	602406785F1 NIH_MGC_91 H...	1168	0.0
gi 10346623 gb BE889373.1 BE889373	601513264F1 NIH_MGC_71 H...	1162	0.0
gi 13137904 gb BG331552.1 BG331552	602433326F1 NIH_MGC_18 H...	1160	0.0
gi 8167102 gb AW975880.1 AW975880	EST387989 MAGE resequence...	1158	0.0
gi 9155643 gb BE280635.1 BE280635	601155778F1 NIH_MGC_21 Ho...	1156	0.0
gi 11258150 gb BF310575.1 BF310575	601895295F2 NIH_MGC_19 H...	1146	0.0
gi 8147508 gb AW957825.1 AW957825	EST369895 MAGE resequence...	1130	0.0
gi 13340715 gb BG434209.1 BG434209	602506154F1 NIH_MGC_79 H...	1114	0.0
gi 10216172 gb BE794974.1 BE794974	601589746F1 NIH_MGC_7 Ho...	1102	0.0
gi 11949082 gb BF675187.1 BF675187	602138110F1 NIH_MGC_83 H...	1088	0.0
gi 4194952 gb AI382182.1 AI382182	te70b01.x1 Soares_NFL_T_G...	1086	0.0
gi 8147585 gb AW957902.1 AW957902	EST369972 MAGE resequence...	1084	0.0
gi 14620169 gb BI160168.1 BI160168	602864026F1 NIH_MGC_42 H...	1076	0.0
gi 6588561 gb AW245568.1 AW245568	2822726.5prime NIH_MGC_7 ...	1076	0.0
gi 9137978 gb BE264422.1 BE264422	601191730F1 NIH_MGC_7 Hom...	1065	0.0
gi 6588571 gb AW245578.1 AW245578	2822726.3prime NIH_MGC_7 ...	1061	0.0

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gi|11617689|gb|BF530338.1|BF530338 602071618F1 NCI_CGAP_Brn... 1055 0.0
gi|14320386|gb|BG925863.1|BG925863 HNC21-1-B11.R HNC (Human... 1053 0.0
gi|2726589|gb|AA714315.1|AA714315 nw06c05.s1 NCI_CGAP_SS1 H... 1015 0.0
gi|2537901|gb|AA625514.1|AA625514 af72e06.r1 Soares_NhHMPu... 1007 0.0
gi|2155441|gb|AA442766.1|AA442766 zv60c08.s1 Soares_testis... 1007 0.0
gi|2464707|gb|AA613669.1|AA613669 no39h10.s1 NCI_CGAP_Pr23 ... 997 0.0
gi|13137575|gb|BG331137.1|BG331137 602431839F1 NIH_MGC_18 H... 993 0.0
gi|1211129|gb|N63300.1|N63300 yy71a11.s1 Soares_multiple_sc... 993 0.0
gi|1148734|gb|N30214.1|N30214 yw83h09.s1 Soares_placenta_8t... 989 0.0
gi|9866354|dbj|AV645340.1|AV645340 AV645340 GLA Homo sapien... 983 0.0
gi|12412330|gb|BG025585.1|BG025585 602274505F1 NIH_MGC_85 H... 981 0.0
gi|3230271|gb|AI015935.1|AI015935 ov26c11.x1 Soares_testis... 977 0.0
gi|9882981|dbj|AV661967.1|AV661967 AV661967 GLC Homo sapien... 975 0.0
gi|6399823|gb|AW168298.1|AW168298 xg62g11.x1 NCI_CGAP_Ut4 H... 969 0.0
gi|3840076|gb|AI244679.1|AI244679 qj97c09.x1 NCI_CGAP_Kid3 ... 969 0.0
gi|2243999|gb|AA507560.1|AA507560 ng88h09.s1 NCI_CGAP_Pr6 H... 965 0.0
gi|14058983|gb|BG748330.1|BG748330 602706579F1 NIH_MGC_43 H... 963 0.0
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gi|10216094|gb|BE794896.1|BE794896 601589638F1 NIH_MGC_7 Ho... 948 0.0
gi|9140017|gb|BE266440.1|BE266440 601193195F1 NIH_MGC_7 Hom... 938 0.0
gi|1210879|gb|N63050.1|N63050 yy70g11.s1 Soares_multiple_sc... 926 0.0
gi|8750451|gb|BE207053.1|BE207053 ba09d08.y1 NIH_MGC_7 Homo... 920 0.0
gi|5395010|gb|AI808444.1|AI808444 wf94h12.x1 Soares_NSF_F8... 918 0.0
gi|10813709|dbj|AV716557.1|AV716557 AV716557 DCB Homo sapie... 914 0.0
gi|2883312|gb|AA813327.1|AA813327 ai81a07.s1 Soares_testis... 908 0.0
gi|10144813|gb|BE730821.1|BE730821 601570791F1 NIH_MGC_21 H... 906 0.0
gi|1193558|gb|N52392.1|N52392 yv49g09.s1 Soares fetal liver... 898 0.0
gi|2138860|gb|AA433946.1|AA433946 zw52g09.s1 Soares_total_f... 888 0.0
gi|4489892|gb|AI557529.1|AI557529 pt2.1-06.D05.r tumor2 Hom... 884 0.0
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gi|11955171|gb|BF681276.1|BF681276 602155553F1 NIH_MGC_83 H... 872 0.0
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gi|2159247|gb|AA446582.1|AA446582 zw84d08.s1 Soares_total_f... 862 0.0
gi|2341742|gb|AA568688.1|AA568688 nm06f08.s1 NCI_CGAP_Co10 ... 856 0.0
gi|4833888|gb|AI669114.1|AI669114 wb80e10.x1 NCI_CGAP_Pr28 ... 854 0.0
gi|10293455|dbj|AV691592.1|AV691592 AV691592 GKC Homo sapie... 839 0.0
gi|3988221|gb|AI304532.1|AI304532 qo55a06.x1 NCI_CGAP_Co8 H... 833 0.0
gi|2731990|gb|AA720021.1|AA720021 zh22e05.s1 Soares_pineal... 831 0.0
gi|1965893|gb|AA313563.1|AA313563 EST185441 Colon carcinoma... 831 0.0
gi|7316134|gb|AW615416.1|AW615416 ba09d08.x1 NIH_MGC_7 Homo... 821 0.0
gi|9875231|dbj|AV654217.1|AV654217 AV654217 GLC Homo sapien... 815 0.0
gi|4489893|gb|AI557530.1|AI557530 pt2.1-06.D05b.r tumor2 Ho... 811 0.0
gi|4598919|gb|AI589871.1|AI589871 tm81d01.x1 NCI_CGAP_Brn25... 803 0.0

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>gi|3994626|gb|AAC88054.1|AR010437 Sequence 3 from patent US 5756299
no DNA sequence available with acc # provided

>gi|3994627|gb|AAC88055.1|AR010438 Sequence 4 from patent US 5756299
no DNA sequence available with acc # provided

>gi|3994628|gb|AAC88056.1|AR010439 Sequence 5 from patent US 5756299
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>gi|10049861|gb|AAE26768.1| Sequence 1 from patent US 5952209

EST Search:

Sequences producing significant alignments:	(bits)	Value
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gi 14051966 gb BG741313.1 BG741313 602634450F1 NCI_CGAP_Skn...	78	8e-12
gi 14051796 gb BG741143.1 BG741143 602631813F1 NCI_CGAP_Skn...	78	8e-12
gi 8158534 gb AW968693.1 AW968693 EST380769 MAGE resequence...	78	8e-12
gi 7846487 gb AW794617.1 AW794617 RC6-UM0014-290300-013-A08...	78	8e-12
gi 6924798 gb AW405741.1 AW405741 UI-HF-BL0-abv-g-11-0-UI.r...	78	8e-12
gi 6463032 gb AW188672.1 AW188672 xk02a07.x1 NCI_CGAP_Co18 ...	78	8e-12
gi 2458420 gb AA609992.1 AA609992 af18a10.s1 Soares_testis_...	78	8e-12
gi 2210648 gb AA481096.1 AA481096 aa29b12.r1 NCI_CGAP_GCB1 ...	78	8e-12
gi 1957157 gb AA304808.1 AA304808 EST175827 Monocytes, stim...	78	8e-12
gi 1291544 gb W17165.1 W17165 zb12g01.r1 Soares_fetal_lung_...	78	8e-12
gi 11594354 gb BF511056.1 BF511056 UI-H-BI4-apl-h-02-0-UI.s...	76	3e-11
gi 7280943 gb AW593685.1 AW593685 xl97h06.x1 NCI_CGAP_Ut1 H...	76	3e-11
gi 7246189 gb AW574650.1 AW574650 UI-HF-BL0-abv-g-11-0-UI.s...	76	3e-11
gi 6652091 gb AW059769.1 AW059769 LE4e05.yg DNC15 Homo sapi...	76	3e-11
gi 5809845 gb AI982593.1 AI982593 wt53b01.x1 NCI_CGAP_Pan1 ...	76	3e-11
gi 5803948 gb AI978918.1 AI978918 wr61h01.x1 NCI_CGAP_Ut1 H...	76	3e-11
gi 4457857 gb AI540484.1 AI540484 tq24e12.x1 NCI_CGAP_Ut1 H...	76	3e-11
gi 4110322 gb AI358701.1 AI358701 qx14a10.x1 NCI_CGAP_Lym12...	76	3e-11
gi 2563996 gb AA640217.1 AA640217 03 subtracted 3' EST libr...	76	3e-11
gi 2457366 gb AA608938.1 AA608938 af03f01.s1 Soares_testis_...	76	3e-11
gi 2210593 gb AA481041.1 AA481041 aa29b12.s1 NCI_CGAP_GCB1 ...	76	3e-11
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>gi|10049862|gb|AAE26769.1| Sequence 3 from patent US 5952209

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>gi|5942061|gb|AAE01593.1| Sequence 1 from patent US 5858750

no DNA sequence available with acc # provided

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>gi|5942061|gb|AAE01593.1| Sequence 1 from patent US 5858750

no DNA sequence available with acc # provided

>gi|5942062|gb|AAE01594.1| Sequence 3 from patent US 5858750

no DNA sequence available with acc # provided

>gi|14272566|emb|CAC39721.1| unnamed protein product [Homo sapiens]

EST Search

Sequences producing significant alignments:

(bits) Value

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gi|14568272|gb|BI117371.1|BI117371 602867919F1 NIH_MGC_7 Ho... 1451 0.0
gi|9803527|gb|BE559808.1|BE559808 601346972F1 NIH_MGC_8 Hom... 1404 0.0
gi|10150139|gb|BE736147.1|BE736147 601307226F1 NIH_MGC_39 H... 1380 0.0
gi|12041329|gb|BF725418.1|BF725418 bx15f11.y1 Human Iris cD... 1300 0.0
gi|5545428|gb|AI871379.1|AI871379 wi81d08.x1 NCI_CGAP_Brn25... 1298 0.0
gi|10162791|gb|BE748799.1|BE748799 601572007T1 NIH_MGC_55 H... 1296 0.0
gi|10162316|gb|BE748324.1|BE748324 601572007F1 NIH_MGC_55 H... 1255 0.0
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gi|11251209|gb|BF304472.1|BF304472 601887831F1 NIH_MGC_17 H... 1197 0.0
gi|9803869|gb|BE560051.1|BE560051 601347483F1 NIH_MGC_8 Hom... 1197 0.0
gi|12670294|gb|BG163591.1|BG163591 602338741F1 NIH_MGC_89 H... 1191 0.0
gi|5178261|gb|AI762594.1|AI762594 wi56b09.x1 NCI_CGAP_Co16 ... 1185 0.0
gi|9122527|gb|BE252388.1|BE252388 601117771F1 NIH_MGC_16 Ho... 1170 0.0
gi|14620762|gb|BI160761.1|BI160761 602864839F1 NIH_MGC_42 H... 1148 0.0
gi|6709871|gb|AW300271.1|AW300271 xs58h07.x1 NCI_CGAP_Kid11... 1144 0.0
gi|14057456|gb|BG746803.1|BG746803 602704139F1 NIH_MGC_15 H... 1132 0.0
gi|5108921|gb|BE252388.1|BE252388 wg23g01.x1 Soares_NSF_F8 ... 1090 0.0
gi|13343784|gb|BG437278.1|BG437278 602490558F1 NIH_MGC_18 H... 1068 0.0
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gi|13792425|gb|BG655016.1|BG655016 ib44h01.y1 HR85 islet Ho... 1041 0.0
gi|11448154|gb|BF435839.1|BF435839 nab42e01.x1 Soares_NSF_F... 1035 0.0
gi|10938383|gb|BF108693.1|BF108693 7i44e02.x1 Soares_NSF_F8... 1033 0.0
gi|8169897|gb|AW978626.1|AW978626 EST390735 MAGE resequence... 1031 0.0
gi|10036058|gb|BE675517.1|BE675517 7f10f02.x1 NCI_CGAP_CLL1... 1013 0.0
gi|5933828|gb|AW058189.1|AW058189 wv83h01.x1 Soares_thymus ... 1011 0.0
gi|4190356|gb|AI380503.1|AI380503 tf95d02.x1 NCI_CGAP_CLL1 ... 1007 0.0
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gi|11082796|gb|BF195666.1|BF195666 7n86g02.x1 NCI_CGAP_Ov18... 961 0.0
gi|11682572|gb|BF590248.1|BF590248 nab22a02.x1 Soares_NSF_F... 957 0.0
gi|4311958|gb|AI457940.1|AI457940 tj55h09.x1 Soares_NSF_F8 ... 957 0.0
gi|6710832|gb|AW301155.1|AW301155 xs57a11.x1 NCI_CGAP_Kid11... 950 0.0
gi|5663387|gb|AI927423.1|AI927423 wo75e11.x1 NCI_CGAP_Pr22 ... 950 0.0
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gi|2463985|gb|AA612947.1|AA612947 nq38e11.s1 NCI_CGAP_Co10 ... 948 0.0
gi|5664220|gb|AI928256.1|AI928256 wo67a08.x1 NCI_CGAP_Pr22 ... 946 0.0
gi|6746198|gb|AW316942.1|AW316942 xw13a08.x1 NCI_CGAP_Brn53... 934 0.0
gi|1377082|gb|W68057.1|W68057 zd42h12.r1 Soares_fetal heart... 930 0.0
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gi|3095277|gb|AA937166.1|AA937166 ok13a08.s1 Soares_NSF_F8 ... 908 0.0
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>gi|5942062|gb|AAE01594.1| Sequence 3 from patent US 5858750

No cDNA sequence available with accession # provided

>gi|12821846|gb|AAE48287.1| Sequence 2 from patent US 6106829

No cDNA sequence available with accession # provided

>gi|11340737|emb|CAC17063.1| unnamed protein product [Homo sapiens]

EST search

Sequences producing significant alignments:

(bits) Value

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gi 13963233 gb BG697241.1 BG697241	602660481F1 NCI_CGAP_Skn...	1463	0.0
gi 14053553 gb BG742900.1 BG742900	602632481F1 NCI_CGAP_Skn...	1457	0.0
gi 13967002 gb BG699072.1 BG699072	602678713F1 NIH_MGC_95 H...	1439	0.0
gi 14053781 gb BG743128.1 BG743128	602634270F1 NCI_CGAP_Skn...	1427	0.0
gi 13410718 gb BG478523.1 BG478523	602524002F1 NIH_MGC_20 H...	1419	0.0
gi 14064290 gb BG753637.1 BG753637	602732827F1 NIH_MGC_43 H...	1409	0.0
gi 9146489 gb BE272160.1 BE272160	601141656F1 NIH_MGC_9 Hom...	1409	0.0
gi 14047524 gb BG777207.1 BG777207	602664432F1 NIH_MGC_59 H...	1402	0.0
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gi 12607924 gb BG114418.1 BG114418	602285710F1 NIH_MGC_86 H...	1348	0.0
gi 13527202 gb BG535657.1 BG535657	602563366F1 NIH_MGC_77 H...	1344	0.0
gi 13289966 gb BG396518.1 BG396518	602459353F1 NIH_MGC_16 H...	1342	0.0
gi 10399800 gb BE906369.1 BE906369	601498517F1 NIH_MGC_70 H...	1340	0.0
gi 10156435 gb BE742443.1 BE742443	601575210F1 NIH_MGC_9 Ho...	1330	0.0
gi 6361758 gb AI305108.1 AI305108	HA2404 Human fetal liver ...	1316	0.0
gi 13570738 gb BG563086.1 BG563086	602581878F1 NIH_MGC_76 H...	1314	0.0
gi 14565107 gb BI114206.1 BI114206	602862564F1 NIH_MGC_17 H...	1302	0.0
gi 14566335 gb BI115434.1 BI115434	602863311F1 NIH_MGC_17 H...	1296	0.0
gi 6359266 gb AI064994.1 AI064994	HA0821 Human fetal liver ...	1296	0.0
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gi 13999085 gb BG719898.1 BG719898	602691430F1 NIH_MGC_97 H...	1247	0.0
gi 13969001 gb BG700048.1 BG700048	602681055F1 NIH_MGC_95 H...	1241	0.0
gi 12678524 gb BG171821.1 BG171821	602322603F1 NIH_MGC_89 H...	1237	0.0
gi 9179232 gb BE295680.1 BE295680	601175688F1 NIH_MGC_17 Ho...	1235	0.0
gi 13523981 gb BG532442.1 BG532442	602561968F1 NIH_MGC_61 H...	1227	0.0
gi 13406852 gb BG474575.1 BG474575	602517363F1 NIH_MGC_16 H...	1227	0.0

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gi|9346825|gb|BE410375.1|BE410375 601302363F1 NIH_MGC_21 Ho... 1219 0.0
 gi|12609069|gb|BG115563.1|BG115563 602317253F1 NIH_MGC_88 H... 1213 0.0
 gi|2398040|gb|AA587226.1|AA587226 nn82b08.s1 NCI_CGAP_Co9 H... 1213 0.0
 gi|13534026|gb|BG541793.1|BG541793 602569677F1 NIH_MGC_77 H... 1211 0.0
 gi|12770117|gb|BG260301.1|BG260301 602371417F1 NIH_MGC_93 H... 1203 0.0
 gi|10741086|gb|BF033374.1|BF033374 601458081F1 NIH_MGC_66 H... 1199 0.0
 gi|9323581|gb|BE378216.1|BE378216 601237991F1 NIH_MGC_44 Ho... 1199 0.0
 gi|14471561|gb|BI064034.1|BI064034 IL3-UT0119-120401-430-G0... 1197 0.0
 gi|9722042|gb|BE514828.1|BE514828 601316764F1 NIH_MGC_9 Hom... 1191 0.0
 gi|9339021|gb|BE393656.1|BE393656 601310379F1 NIH_MGC_44 Ho... 1187 0.0
 gi|11952823|gb|BF678928.1|BF678928 602153555F1 NIH_MGC_83 H... 1183 0.0
 gi|6568025|gb|AW235636.1|AW235636 xn20g09.x1 NCI_CGAP_Kid11... 1168 0.0
 gi|13972135|gb|BG701616.1|BG701616 602682503F1 NIH_MGC_95 H... 1158 0.0
 gi|8144363|gb|AW954680.1|AW954680 EST366750 MAGE resequence... 1150 0.0
 gi|9331236|gb|BE385871.1|BE385871 601275933F1 NIH_MGC_20 Ho... 1144 0.0
 gi|12687397|gb|BG180694.1|BG180694 602329481F1 NIH_MGC_91 H... 1142 0.0
 gi|11953928|gb|BF680033.1|BF680033 602154752F1 NIH_MGC_83 H... 1132 0.0
 gi|13458797|gb|BG497280.1|BG497280 602537844F1 NIH_MGC_59 H... 1128 0.0
 gi|9179583|gb|BE296026.1|BE296026 601175058F1 NIH_MGC_17 Ho... 1128 0.0
 gi|9770617|gb|BE541972.1|BE541972 601064273F1 NIH_MGC_10 Ho... 1126 0.0
 gi|12612166|gb|BG118660.1|BG118660 602348226F1 NIH_MGC_90 H... 1124 0.0
 gi|1544739|gb|AA053804.1|AA053804 ze25e09.s1 Soares_fetal_h... 1120 0.0
 gi|6361052|gb|AI174674.1|AI174674 HA2365 Human fetal liver ... 1118 0.0
 gi|13282164|gb|BG388718.1|BG388718 602414406F1 NIH_MGC_92 H... 1116 0.0
 gi|5080879|gb|AF063505.1|AF063505 AF063505 Homo sapiens lib... 1106 0.0
 gi|6359496|gb|AI110631.1|AI110631 HA0057 Human fetal liver ... 1106 0.0
 gi|11952959|gb|BF679064.1|BF679064 602153322F1 NIH_MGC_83 H... 1094 0.0
 gi|11954261|gb|BF680366.1|BF680366 602154150F1 NIH_MGC_83 H... 1092 0.0
 gi|2167857|gb|AA454188.1|AA454188 zx48a12.s1 Soares_testis... 1088 0.0
 gi|13336068|gb|BG429562.1|BG429562 602501238F1 NIH_MGC_75 H... 1076 0.0
 gi|11613456|gb|BF526180.1|BF526180 602071089F1 NCI_CGAP_Bm... 1076 0.0
 gi|11954238|gb|BF680343.1|BF680343 602154124F1 NIH_MGC_83 H... 1070 0.0
 gi|12062595|gb|BF735895.1|BF735895 QV1-KT0023-131100-480-b0... 1068 0.0
 gi|2154395|gb|AA442517.1|AA442517 zv68a01.r1 Soares_total_f... 1068 0.0
 gi|13727617|gb|BG205930.1|BG205930 RST25365 Athersys RAGE L... 1067 0.0
 gi|12062768|gb|BF736094.1|BF736094 QV1-KT0023-131100-475-h0... 1067 0.0
 gi|5839186|gb|AI992281.1|AI992281 ws41g11.x1 NCI_CGAP_Bm25... 1065 0.0
 gi|14471624|gb|BI064110.1|BI064110 IL3-UT0119-170401-458-F0... 1063 0.0
 gi|12158715|gb|BF820301.1|BF820301 CM0-RT0018-181100-706-e0... 1063 0.0
 gi|11947983|gb|BF674088.1|BF674088 602137489F1 NIH_MGC_83 H... 1059 0.0
 gi|5864305|gb|AW015548.1|AW015548 UI-H-BI0p-aau-e-01-0-UI.s... 1059 0.0
 gi|14178068|gb|BG830481.1|BG830481 602767043F1 NIH_MGC_42 H... 1057 0.0
 gi|5767638|gb|AI970812.1|AI970812 wr20b02.x1 NCI_CGAP_Pr28 ... 1057 0.0
 gi|11954070|gb|BF680175.1|BF680175 602154923F1 NIH_MGC_83 H... 1055 0.0
 gi|11947422|gb|BF673610.1|BF673610 602136021F1 NIH_MGC_83 H... 1055 0.0
 gi|9135943|gb|BE262703.1|BE262703 601146057F1 NIH_MGC_19 Ho... 1055 0.0
 gi|5663000|gb|AI927036.1|AI927036 wo87b07.x1 NCI_CGAP_Kid11... 1055 0.0
 gi|12523600|gb|BG057848.1|BG057848 naf13d09.x1 Soares_NPBMC... 1051 0.0
 gi|11107340|gb|BF213754.1|BF213754 601847654F1 NIH_MGC_55 H... 1051 0.0
 gi|12062604|gb|BF735904.1|BF735904 QV1-KT0023-131100-480-h0... 1047 0.0
 gi|11947265|gb|BF673370.1|BF673370 602135837F1 NIH_MGC_83 H... 1047 0.0
 gi|4897519|gb|AI686225.1|AI686225 tu40f05.x1 NCI_CGAP_Pr28 ... 1045 0.0
 gi|2703194|gb|AA700231.1|AA700231 zj52f03.s1 Soares_fetal_l... 1045 0.0
 gi|13714218|gb|BG192531.1|BG192531 RST11646 Athersys RAGE L... 1043 0.0
 gi|9189288|gb|BE336903.1|BE336903 bb68f05.y1 NIH_MGC_9 Homo... 1043 0.0
 gi|5364540|gb|AI799068.1|AI799068 we98b05.x1 Soares_NFL_T_G... 1041 0.0
 gi|10348906|gb|BE890514.1|BE890514 601431585F1 NIH_MGC_72 H... 1037 0.0

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gi|5768230|gb|AI971404.1|AI971404 wr04e08.x1 NCI_CGAP_GC6 H... 1033 0.0
 gi|14471659|gb|BI064132.1|BI064132 IL3-UT0119-170401-459-H0... 1025 0.0
 gi|7280592|gb|AW593334.1|AW593334 hg13d03.x1 Soares_NFL_T_G... 1023 0.0
 gi|10587293|gb|BE973957.1|BE973957 601680275F1 NIH_MGC_83 H... 1021 0.0
 gi|14565160|gb|BI114259.1|BI114259 602862449F1 NIH_MGC_17 H... 1017 0.0 Formularende

>gi|10045089|emb|CAC07797.1| unnamed protein product [unidentified]

EST search:

Sequences producing significant alignments:

(bits) Value

gi|12797915|emb|AL534422.1|AL534422 AL534422 LTI_FL013_FBm... 1756 0.0
 gi|12929551|emb|AL571847.1|AL571847 AL571847 LTI_NFL006_PL2... 1731 0.0
 gi|12795330|emb|AL531837.1|AL531837 AL531837 LTI_NFL001_NBC... 1659 0.0
 gi|13908294|gb|BG676897.1|BG676897 602623506F1 NCI_CGAP_Skn... 1624 0.0
 gi|12914346|emb|AL564189.1|AL564189 AL564189 LTI_NFL001_NBC... 1602 0.0
 gi|12879740|emb|AL546532.1|AL546532 AL546532 LTI_NFL006_PL2... 1540 0.0
 gi|10948684|dbj|AU123968.1|AU123968 AU123968 NT2RM2 Homo sa... 1479 0.0
 gi|10949847|dbj|AU125131.1|AU125131 AU125131 NT2RM4 Homo sa... 1471 0.0
 gi|10992681|dbj|AU132327.1|AU132327 AU132327 NT2RP3 Homo sa... 1453 0.0
 gi|3214525|gb|AI005015.1|AI005015 ou91a01.x1 NCI_CGAP_Kid3 ... 1451 0.0
 gi|3674126|gb|AI146444.1|AI146444 qb93a03.x1 Soares_fetal_h... 1425 0.0
 gi|3412550|gb|AI078142.1|AI078142 oz30b04.x1 Soares_total_f... 1417 0.0
 gi|13721603|gb|BG199916.1|BG199916 RST19212 Athersys RAGE L... 1413 0.0
 gi|5409861|emb|AL040917.1|AL040917 DKFZp434J2215_s1 434 (sy... 1396 0.0
 gi|13911524|gb|BG680127.1|BG680127 602628285F1 NCI_CGAP_Skn... 1394 0.0
 gi|10991451|dbj|AU131097.1|AU131097 AU131097 NT2RP3 Homo sa... 1390 0.0
 gi|10991758|dbj|AU131404.1|AU131404 AU131404 NT2RP3 Homo sa... 1362 0.0
 gi|10795143|dbj|AV713626.1|AV713626 AV713626 DCB Homo sapie... 1348 0.0
 gi|11004302|dbj|AU142781.1|AU142781 AU142781 Y79AA1 Homo sa... 1344 0.0
 gi|10932266|dbj|AU117308.1|AU117308 AU117308 HEMBA1 Homo sa... 1338 0.0
 gi|10996985|dbj|AU136446.1|AU136446 AU136446 PLACE1 Homo sa... 1336 0.0
 gi|9769065|gb|BE540420.1|BE540420 601065826F1 NIH_MGC_10 Ho... 1332 0.0
 gi|10144826|gb|BE730834.1|BE730834 601569914F1 NIH_MGC_21 H... 1322 0.0
 gi|12429277|gb|BG035291.1|BG035291 602324913F1 NIH_MGC_90 H... 1320 0.0
 gi|3002065|gb|AA886957.1|AA886957 oi14e10.s1 NCI_CGAP_GC4 H... 1314 0.0
 gi|8169585|gb|AW978321.1|AW978321 EST390430 MAGE resequence... 1306 0.0
 gi|10365912|gb|BE898933.1|BE898933 601682360F1 NIH_MGC_9 Ho... 1302 0.0
 gi|10992834|dbj|AU132480.1|AU132480 AU132480 NT2RP3 Homo sa... 1292 0.0
 gi|14512082|gb|BI093752.1|BI093752 602860460F1 NIH_MGC_10 H... 1283 0.0
 gi|10579372|gb|BE968667.1|BE968667 601650086F1 NIH_MGC_74 H... 1271 0.0
 gi|6439061|gb|AW173113.1|AW173113 xj83d12.x1 Soares_NFL_T_G... 1271 0.0
 gi|10352702|gb|BE892403.1|BE892403 601433879F1 NIH_MGC_72 H... 1259 0.0
 gi|11264224|gb|BF315938.1|BF315938 601895882F1 NIH_MGC_19 H... 1247 0.0
 gi|10355660|gb|BE893865.1|BE893865 601436228F1 NIH_MGC_72 H... 1221 0.0
 gi|10321137|gb|BE872361.1|BE872361 601448614F1 NIH_MGC_65 H... 1215 0.0
 gi|10038238|gb|BE677697.1|BE677697 7d90e10.x1 Lupski_dorsal... 1211 0.0
 gi|10098245|gb|BE710071.1|BE710071 IL3-HT0618-030800-233-G0... 1209 0.0
 gi|10725045|dbj|AV707780.1|AV707780 AV707780 ADB Homo sapie... 1201 0.0
 gi|13704200|gb|BG182513.1|BG182513 RST1389 Athersys RAGE Li... 1191 0.0
 gi|11283822|gb|BF337571.1|BF337571 602035323F1 NCI_CGAP_Bm... 1191 0.0
 gi|5393242|gb|AI806676.1|AI806676 wf35d04.x1 Soares_NFL_T_G... 1191 0.0
 gi|12416699|gb|BG027664.1|BG027664 602294679F1 NIH_MGC_86 H... 1183 0.0
 gi|4875177|gb|AI674697.1|AI674697 wd19d06.x1 Soares_NFL_T_G... 1183 0.0
 gi|10098237|gb|BE710063.1|BE710063 IL3-HT0618-030800-233-C0... 1172 0.0

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gi|6661159|gb|AW274129.1|AW274129 xv27b02.x1 Soares_NFL_T_G... 1172 0.0
gi|1799096|gb|AA203386.1|AA203386 zx57f11.r1 Soares_fetal_I... 1170 0.0
gi|5393220|gb|AI806654.1|AI806654 wf35b04.x1 Soares_NFL_T_G... 1168 0.0
gi|12101942|gb|BF796888.1|BF796888 602258274F1 NIH_MGC_85 H... 1166 0.0
gi|10965228|gb|BF126270.1|BF126270 601650451F1 NIH_MGC_76 H... 1154 0.0
gi|11968943|gb|BF683535.1|BF683535 602139737F1 NIH_MGC_46 H... 1144 0.0
gi|2992678|gb|AA883079.1|AA883079 am24a03.s1 Soares_NFL_T_G... 1138 0.0
gi|10823746|dbj|AV721848.1|AV721848 AV721848 HTB Homo sapie... 1136 0.0
gi|4893253|gb|AI683071.1|AI683071 tx01b04.x1 NCI_CGAP_Ut4 H... 1134 0.0
gi|10951089|dbj|AU126373.1|AU126373 AU126373 NT2RP1 Homo sa... 1132 0.0
gi|10995386|dbj|AU134847.1|AU134847 AU134847 PLACE1 Homo sa... 1130 0.0
gi|13050584|gb|BG292110.1|BG292110 602386409F1 NIH_MGC_93 H... 1126 0.0
gi|11978501|gb|BF693093.1|BF693093 602080115F1 NIH_MGC_81 H... 1126 0.0
gi|4610274|gb|AI601245.1|AI601245 ar88b08.x1 Barstead colon... 1122 0.0
gi|12614085|gb|BG120576.1|BG120576 602346709F1 NIH_MGC_90 H... 1118 0.0
gi|6451107|gb|AW182647.1|AW182647 xj45a04.x1 Soares_NFL_T_G... 1112 0.0
gi|9132373|gb|BE312992.1|BE312992 601150276F1 NIH_MGC_19 Ho... 1110 0.0
gi|10299269|dbj|AV697406.1|AV697406 AV697406 GKC Homo sapie... 1104 0.0
gi|12040732|gb|BF724821.1|BF724821 bx09b01.y1 Human Iris cD... 1098 0.0
gi|10825009|dbj|AV722480.1|AV722480 AV722480 HTB Homo sapie... 1088 0.0
gi|13980573|gb|BG705833.1|BG705833 602669317F1 NIH_MGC_96 H... 1082 0.0
gi|12674928|gb|BG168225.1|BG168225 602339543F1 NIH_MGC_89 H... 1082 0.0
gi|2185694|gb|AA460574.1|AA460574 zx60a12.r1 Soares_testis_... 1080 0.0
gi|8149925|gb|AW960241.1|AW960241 EST372312 MAGE resequence... 1076 0.0
gi|2261844|gb|AA521301.1|AA521301 aa79f07.s1 NCI_CGAP_GCB1 ... 1076 0.0
gi|3922551|gb|AI284318.1|AI284318 qj65c07.x1 NCI_CGAP_Kid3 ... 1070 0.0
gi|4833752|gb|AI668978.1|AI668978 wb82g01.x1 NCI_CGAP_Pr28 ... 1057 0.0
gi|12768489|gb|BG258673.1|BG258673 602379803F1 NIH_MGC_92 H... 1051 0.0
gi|10990261|dbj|AU129907.1|AU129907 AU129907 NT2RP2 Homo sa... 1047 0.0
gi|6881860|gb|AW377197.1|AW377197 IL3-CT0220-111199-028-D09... 1041 0.0
gi|12916948|emb|AL565505.1|AL565505 AL565505 LTI_FL013_FBr... 1031 0.0
gi|1350109|gb|W52530.1|W52530 zc54d04.r1 Soares_senescent_f... 1025 0.0
gi|5036667|gb|AI719411.1|AI719411 as64c11.x1 Barstead colon... 1017 0.0
gi|10203989|gb|BE782791.1|BE782791 601471972F1 NIH_MGC_67 H... 1015 0.0
gi|9871380|dbj|AV650366.1|AV650366 AV650366 GLC Homo sapien... 1011 0.0
gi|1961448|gb|AA309123.1|AA309123 EST179897 Colon carcinoma... 1011 0.0
gi|2335271|gb|AA563632.1|AA563632 ng47f08.s1 NCI_CGAP_Co3 H... 1007 0.0
gi|2933392|gb|AA845633.1|AA845633 ai90c08.s1 Soares_parathy... 993 0.0
gi|14403997|gb|BG999925.1|BG999925 MR1-HN0069-040101-015-g1... 991 0.0
gi|10299583|dbj|AV697720.1|AV697720 AV697720 GKC Homo sapie... 991 0.0
gi|11263172|gb|BF314998.1|BF314998 601899017F1 NIH_MGC_19 H... 985 0.0
gi|6038150|gb|AW082998.1|AW082998 xb72d12.x1 Soares_NFL_T_G... 983 0.0
gi|3844111|gb|AI248714.1|AI248714 qh72c04.x1 Soares_fetal_I... 983 0.0
gi|11012858|dbj|AU151337.1|AU151337 AU151337 NT2RP2 Homo sa... 981 0.0
gi|5449606|gb|AI828935.1|AI828935 wj37h08.x1 NCI_CGAP_Lu19 ... 975 0.0
gi|14172393|gb|BG824806.1|BG824806 602725101F1 NIH_MGC_15 H... 971 0.0
gi|11015393|dbj|AU153872.1|AU153872 AU153872 NT2RP3 Homo sa... 971 0.0
gi|2838179|gb|AA778848.1|AA778848 zj42a03.s1 Soares_fetal_I... 969 0.0
gi|3742671|gb|AI191462.1|AI191462 qe32f11.s1 Soares_fetal_I... 963 0.0
gi|3596240|gb|AI127726.1|AI127726 qc26h03.x1 Soares_pregnan... 963 0.0
gi|4270907|gb|AI424976.1|AI424976 tg38g11.x1 Soares_NFL_T_G... 959 0.0
gi|9877013|dbj|AV655999.1|AV655999 AV655999 GLC Homo sapien... 957 0.0
gi|2704986|gb|AA701873.1|AA701873 zi56b08.s1 Soares_fetal_I... 955 0.0
gi|4073260|gb|AI336333.1|AI336333 qt43f09.x1 Soares_fetal_I... 948 0.0
gi|10200888|gb|BE779690.1|BE779690 601465210F1 NIH_MGC_67 H... 942 0.0
gi|4073310|gb|AI336383.1|AI336383 qt51c08.x1 Soares_fetal_I... 940 0.0

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>gi|14598964|emb|CAC43882.1| 21676 ADH [Homo sapiens]

EST Search:

Organ: skin

Organ: kidney

Tissue type: renal cell adenocarcinoma

Organ: lung

Tissue type: small cell carcinoma

Organ: testis

Organ: skin

Tissue type: melanotic melanoma

Sequences producing significant alignments:

(bits) Value

gi 14052242 gb BG741589.1 BG741589	602635416F1 NCI CGAP Skn...	1559	0.0
gi 13130914 gb BG324477.1 BG324477	602422421F1 NIH MGC 14 H...	1509	0.0
gi 10217667 gb BE796469.1 BE796469	601589817F1 NIH MGC 7 Ho...	1366	0.0
gi 12347068 gb BF979853.1 BF979853	602288368T1 NIH MGC 97 H...	1285	0.0
gi 13031288 gb BG282361.1 BG282361	602402863F1 NIH MGC 20 H...	1283	0.0
gi 12419347 gb BG030249.1 BG030249	602297547F1 NIH MGC 87 H...	1235	0.0
gi 9888236 gb BE617298.1 BE617298	601441804F1 NIH MGC 65 Ho...	1213	0.0
gi 12335074 gb BF967768.1 BF967768	602287657T1 NIH MGC 96 H...	1203	0.0
gi 10358131 gb BE895089.1 BE895089	601436007F1 NIH MGC 72 H...	1183	0.0
gi 12922282 emb AL568188.1 AL568188	AL568188 LTI FL013 FBm...	1163	0.0
gi 10318693 gb BE869917.1 BE869917	601446563F1 NIH MGC 65 H...	1155	0.0
gi 9875587 db AV654573.1 AV654573	AV654573 GLC Homo sapien...	1155	0.0
gi 9331605 gb BE386240.1 BE386240	601273447F1 NIH MGC 20 Ho...	1145	0.0
gi 12904138 emb AL559036.1 AL559036	AL559036 LTI NFL008 TC2...	1124	0.0
gi 12432922 gb BG037061.1 BG037061	602288368F1 NIH MGC 97 H...	1122	0.0
gi 12727118 gb BG231973.1 BG231973	naf34g12.x1 Soares NPBM...	1058	0.0
gi 5848488 gb AW001572.1 AW001572	wu34f05.x1 Soares Dieckgr...	1012	0.0
gi 11764835 gb BE962188.2 BE962188	601655404R1 NIH MGC 65 H...	1000	0.0
gi 14818515 gb BI260323.1 BI260323	602969342F1 NIH MGC 12 H...	994	0.0
gi 9186562 gb BE302814.1 BE302814	ba69c04.y1 NIH MGC 20 Hom...	988	0.0
gi 1365172 gb W58459.1 W58459	zd25h06.s1 Soares fetal heart...	972	0.0
gi 12904136 emb AL559035.1 AL559035	AL559035 LTI NFL008 TC2...	962	0.0
gi 1365130 gb W58347.1 W58347	zd25b06.s1 Soares fetal heart...	958	0.0
gi 10457801 gb BE931725.1 BE931725	QV4-HT0539-240800-380-d1...	956	0.0
gi 3593739 gb AI125225.1 AI125225	qd87f01.x1 Soares testis ...	939	0.0
gi 9340527 gb BE395162.1 BE395162	601309505F1 NIH MGC 44 Ho...	931	0.0
gi 1365185 gb W58472.1 W58472	zd25b06.r1 Soares fetal heart...	931	0.0
gi 8165401 gb AW974208.1 AW974208	EST386311 MAGE resequence...	923	0.0
gi 5369162 gb AI803690.1 AI803690	tc19e02.x1 Soares NhHMPu...	923	0.0
gi 5912884 gb AW050614.1 AW050614	wz19c10.x1 Soares Dieckgr...	911	0.0
gi 4853165 gb AI673434.1 AI673434	wf19a10.x1 Soares Dieckgr...	911	0.0
gi 9340769 gb BE395404.1 BE395404	601309913F1 NIH MGC 44 Ho...	905	0.0
gi 6133237 gb AW131630.1 AW131630	xf32d02.x1 NCI CGAP Bm50...	903	0.0
gi 5912902 gb AW050632.1 AW050632	wz19e08.x1 Soares Dieckgr...	885	0.0
gi 4187886 gb AI378033.1 AI378033	te67g09.x1 Soares NFL_T_G...	877	0.0
gi 1365227 gb W58514.1 W58514	zd25h06.r1 Soares fetal heart...	871	0.0
gi 3048078 gb AA908673.1 AA908673	ol04d06.s1 NCI CGAP Lu5 H...	857	0.0
gi 13520318 gb BG528781.1 BG528781	602580128F1 NIH MGC 60 H...	853	0.0
gi 3598437 gb AI129923.1 AI129923	qc41d08.x1 Soares pregnan...	847	0.0
gi 3778197 gb AI214596.1 AI214596	qm28h07.x1 NCI CGAP Lu5 H...	837	0.0
gi 2161847 gb AA448177.1 AA448177	zw83b12.s1 Soares testis ...	833	0.0
gi 6992857 gb AW452081.1 AW452081	UI-H-BI3-ain-c-06-0-UI.s1...	825	0.0
gi 13996787 gb BG717600.1 BG717600	602698216F1 NIH MGC 97 H...	787	0.0
gi 3752620 gb AI200014.1 AI200014	qf90d03.x1 Soares placent...	762	0.0
gi 2350443 gb AA575928.1 AA575928	nm56b12.s1 NCI CGAP Br3 H...	760	0.0
gi 4629290 gb AI620164.1 AI620164	tu46c12.x1 NCI CGAP Pr28 ...	756	0.0
gi 14385896 gb BG983161.1 BG983161	IL5-CN0068-060301-381-h0...	754	0.0

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gi|2879112|gb|AA809706.1|AA809706 nk96f06.s1 NCI CGAP Co3 H... 738 0.0
 gi|3803861|gb|AI221658.1|AI221658 qg93d04.x1 Soares_NFL_T_G... 712 0.0

>gi|14598968|emb|CAC43884.1| 21615 ADH [Homo sapiens]

EST Search:

Organ: brain
 Tissue type: neuroblastoma cells

Tissue type: placenta

Tissue type: placenta

Sex: male
 Organ: brain
 Tissue type: neuroblastoma cells

Sequences producing significant alignments: (bits) Value

gi|12786589|emb|AL523096.1|AL523096 AL523096 LTI_NFL003_NBC... 1707 0.0
 gi|12889983|emb|AL551741.1|AL551741 AL551741 LTI_NFL006_PL2... 1653 0.0
 gi|12936195|emb|AL575230.1|AL575230 AL575230 LTI_NFL006_PL2... 1487 0.0
 gi|12793625|emb|AL530132.1|AL530132 AL530132 LTI_NFL001_NBC... 1457 0.0
 gi|13294054|gb|BG400606.1|BG400606 602464263F1 NIH_MGC_75 H... 1443 0.0
 gi|13452667|gb|BG491155.1|BG491155 602518792F1 NIH_MGC_18 H... 1401 0.0
 gi|13982652|gb|BG706873.1|BG706873 602672037F1 NIH_MGC_96 H... 1387 0.0
 gi|3281013|gb|AI041819.1|AI041819 oy34a10.x1 Soares_parathy... 1352 0.0
 gi|12793624|emb|AL530131.1|AL530131 AL530131 LTI_NFL001_NBC... 1346 0.0
 gi|13545674|gb|BG547009.1|BG547009 602573805F1 NIH_MGC_77 H... 1340 0.0
 gi|13976480|gb|BG703780.1|BG703780 602686804F1 NIH_MGC_95 H... 1338 0.0
 gi|14051133|gb|BG740480.1|BG740480 602633875F1 NCI CGAP_Skn... 1330 0.0
 gi|13039621|gb|BG286600.1|BG286600 602381608F1 NIH_MGC_93 H... 1314 0.0
 gi|11257955|gb|BF310393.1|BF310393 601895043F1 NIH_MGC_19 H... 1304 0.0
 gi|2839375|gb|AA780044.1|AA780044 zj24e12.s1 Soares_fetal [...] 1302 0.0
 gi|11265005|gb|BF316648.1|BF316648 601903206F1 NIH_MGC_19 H... 1272 0.0
 gi|8154981|gb|AW965145.1|AW965145 EST377218 MAG_E resequence... 1272 0.0
 gi|3238050|gb|AI022809.1|AI022809 ow55f02.x1 Soares_parathy... 1256 0.0
 gi|13544541|gb|BG545876.1|BG545876 602573161F1 NIH_MGC_77 H... 1238 0.0
 gi|12598260|gb|BG104418.1|BG104418 602311036F1 NIH_MGC_20 H... 1225 0.0
 gi|12598014|gb|BG104172.1|BG104172 602310736F1 NIH_MGC_20 H... 1221 0.0
 gi|12606210|gb|BG112704.1|BG112704 602282264F1 NIH_MGC_86 H... 1219 0.0
 gi|2877836|gb|AA808430.1|AA808430 oe53b08.s1 NCI CGAP_Lu5 H... 1207 0.0
 gi|4073201|gb|AI336274.1|AI336274 qt45e02.x1 Soares_fetal [...] 1201 0.0
 gi|6471396|gb|AW192697.1|AW192697 xl48h04.x1 NCI CGAP_Pan1 ... 1183 0.0
 gi|9323894|gb|BE378429.1|BE378429 601236767F1 NIH_MGC_44 Ho... 1151 0.0
 gi|12910323|emb|AL562168.1|AL562168 AL562168 LTI_NFL003_NBC... 1149 0.0
 gi|9186202|gb|BE302454.1|BE302454 ba65f04.y1 NIH_MGC_20 Hom... 1107 0.0
 gi|9186195|gb|BE302447.1|BE302447 ba65e04.y1 NIH_MGC_20 Hom... 1101 0.0
 gi|5813571|gb|AI986294.1|AI986294 wz64c08.x1 NCI CGAP_Mel15... 1078 0.0
 gi|4435368|gb|AI521233.1|AI521233 to66f02.x1 NCI CGAP_Gas4 ... 1076 0.0
 gi|12875811|emb|AL543333.1|AL543333 AL543333 LTI_NFL006_PL2... 1070 0.0
 gi|5109073|gb|AI740785.1|AI740785 wg24b10.x1 Soares_NSF_F8 ... 1056 0.0
 gi|2993433|gb|AA883903.1|AA883903 aj13a01.s1 Soares_parathy... 1056 0.0
 gi|3400111|gb|AI073467.1|AI073467 ov45a08.x1 Soares_testis ... 1048 0.0
 gi|10350081|gb|BE891095.1|BE891095 601432208F1 NIH_MGC_72 H... 1046 0.0
 gi|6228615|gb|AW157214.1|AW157214 au92h07.x1 Schneider_feta... 1038 0.0
 gi|5858190|gb|AW009412.1|AW009412 ws82c11.x1 NCI CGAP_Co3 H... 1030 0.0
 gi|2324986|gb|AA554447.1|AA554447 nl14h10.s1 NCI CGAP_Br2 H... 1028 0.0
 gi|5546002|gb|AI871953.1|AI871953 wm53h05.x1 NCI CGAP_Ut2 H... 1024 0.0
 gi|2955773|gb|AA863294.1|AA863294 og93b12.s1 NCI CGAP_Kid5 ... 1014 0.0
 gi|2690528|gb|AA689601.1|AA689601 nv66b12.s1 NCI CGAP_GCB1 ... 1008 0.0
 gi|13294752|gb|BG401304.1|BG401304 602465415F1 NIH_MGC_75 H... 1006 0.0

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gi|4598887|gb|AI589839.1|AI589839 tm81a02.x1 NCI_CGAP_Bm25... 1006 0.0
 gi|4834180|gb|AI669406.1|AI669406 ty32b07.x1 NCI_CGAP_Ut2 H... 1002 0.0

>gi|14598962|emb|CAC43881.1| 33756 ADH [Homo sapiens]

EST Search:

Organ: brain
 Tissue type: anaplastic oligodendroglioma

Organ: colon
 Tissue type: colon tumor, RER+

Organ: kidney

Organ: colon
 Tissue type: adenocarcinoma cell line

Sequences producing significant alignments:	(bits)	Value
gi 5545428 gb AI871379.1 AI871379 wl81d08.x1 NCI_CGAP_Bm25...	1291	0.0
gi 5178261 gb AI762594.1 AI762594 wi56b09.x1 NCI_CGAP_Co16 ...	1193	0.0
gi 6709871 gb AW300271.1 AW300271 xs58h07.x1 NCI_CGAP_Kid11...	1136	0.0
gi 5108921 gb AI740633.1 AI740633 wg23g01.x1 Soares_NSF_F8...	1067	0.0
gi 14169716 gb BG822129.1 BG822129 602726271F1 NIH_MGC_15 H...	1061	0.0
gi 6570140 gb AW237763.1 AW237763 xm81b04.x1 NCI_CGAP_Kid11...	1051	0.0
gi 10938383 gb BF108693.1 BF108693 7i44e02.x1 Soares_NSF_F8...	1025	0.0
gi 5540213 gb AI867197.1 AI867197 wa01c10.x1 NCI_CGAP_Kid11...	1021	0.0
gi 11448154 gb BF435839.1 BF435839 nab42e01.x1 Soares_NSF_F...	1011	0.0
gi 5933828 gb AW058189.1 AW058189 wv83h01.x1 Soares_thymus...	1003	0.0
gi 4190356 gb AI380503.1 AI380503 tf95d02.x1 NCI_CGAP_CLL1 ...	999	0.0
gi 5450901 gb AI830241.1 AI830241 wj78h11.x1 NCI_CGAP_Lu19 ...	995	0.0
gi 5113008 gb AI744631.1 AI744631 wg04g09.x1 Soares_NSF_F8...	981	0.0
gi 4598007 gb AI588959.1 AI588959 tk15d10.x1 Soares_NhHMPu...	975	0.0
gi 11682572 gb BF590248.1 BF590248 nab22a02.x1 Soares_NSF_F...	950	0.0
gi 5232040 gb AI765531.1 AI765531 wi81b11.x1 NCI_CGAP_Kid12...	950	0.0
gi 4311958 gb AI457940.1 AI457940 tj55h09.x1 Soares_NSF_F8...	950	0.0
gi 6710832 gb AW301155.1 AW301155 xs57a11.x1 NCI_CGAP_Kid11...	942	0.0
gi 5664220 gb AI928256.1 AI928256 wo67a08.x1 NCI_CGAP_Pr22 ...	938	0.0
gi 6746198 gb AW316942.1 AW316942 xw13a08.x1 NCI_CGAP_Bm53...	926	0.0
gi 5663387 gb AI927423.1 AI927423 wo75e11.x1 NCI_CGAP_Pr22 ...	926	0.0
gi 5766733 gb AI969915.1 AI969915 wq77e03.x1 NCI_CGAP_Pr28 ...	924	0.0
gi 9803527 gb BE559808.1 BE559808 601346972F1 NIH_MGC_8 Hom...	918	0.0
gi 10819930 gb BF061020.1 BF061020 7j62f12.x1 Soares_NSF_F8...	890	0.0
gi 3095277 gb AA937166.1 AA937166 ok13a08.s1 Soares_NSF_F8...	888	0.0
gi 10941529 gb BF111839.1 BF111839 7i36c03.x1 Soares_NSF_F8...	886	0.0
gi 5837771 gb AI990886.1 AI990886 ws24b02.x1 NCI_CGAP_GC6 H...	880	0.0
gi 3960152 gb AI300806.1 AI300806 qn47b02.x1 NCI_CGAP_Kid5 ...	880	0.0
gi 12041329 gb BF725418.1 BF725418 bx15f11.y1 Human Iris cD...	878	0.0
gi 10809455 gb BF055559.1 BF055559 7j81h04.x1 Soares_NSF_F8...	872	0.0
gi 5366102 gb AI800708.1 AI800708 tc13c01.x1 Soares_NhHMPu...	872	0.0
gi 10150139 gb BE736147.1 BE736147 601307226F1 NIH_MGC_39 H...	864	0.0
gi 14568272 gb BI117371.1 BI117371 602867919F1 NIH_MGC_7 Ho...	860	0.0
gi 2279509 gb AA535256.1 AA535256 nf93b07.s1 NCI_CGAP_Co3 H...	860	0.0

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gi|8908766|gb|BE221448.1|BE221448 hu25b07.x1 NCI_CGAP_Mel15... 858 0.0
 gi|10938643|gb|BF108953.1|BF108953 7i55a06.x1 Soares_NSF_F8... 856 0.0
 gi|6026228|gb|AW071230.1|AW071230 wz23e02.x1 Soares_Dieckgr... 841 0.0
 gi|11251209|gb|BF304472.1|BF304472 601887831F1 NIH_MGC_17 H... 811 0.0

**>gi|14602730|gb|AAH09881.1|AAH09881 Unknown (protein for MGC:16483)
 [Homo sapiens]**

EST Search:

Organ: placenta
 Tissue type: choriocarcinoma

Organ: lung
 Tissue type: small cell carcinoma

Organ: bone marrow
 Tissue type: from acute myelogenous leukemia

Organ: brain
 Tissue type: anaplastic oligodendroglioma

	Score	E	(bits)	Value
Sequences producing significant alignments:				
gi 13412286 gb BG480007.1 BG480007	602527580F1	NIH_MGC_21 H...	1469	0.0
gi 14568272 gb B1117371.1 B1117371	602867919F1	NIH_MGC_7 Ho...	1467	0.0
gi 10388276 gb BE900363.1 BE900363	601673230F1	NIH_MGC_21 H...	1409	0.0
gi 10394942 gb BE903479.1 BE903479	601676737F1	NIH_MGC_21 H...	1364	0.0
gi 10162791 gb BE748799.1 BE748799	601572007T1	NIH_MGC_55 H...	1312	0.0
gi 5545428 gb A1871379.1 A1871379	w181d08.x1	NCI_CGAP_Bm25...	1298	0.0
gi 14169716 gb BG822129.1 BG822129	602726271F1	NIH_MGC_15 H...	1291	0.0
gi 12670294 gb BG163591.1 BG163591	602338741F1	NIH_MGC_89 H...	1207	0.0
gi 5178261 gb A1762594.1 A1762594	w156b09.x1	NCI_CGAP_Co16 ...	1185	0.0
gi 9140120 gb BE266541.1 BE266541	601193528F1	NIH_MGC_7 Hom...	1168	0.0
gi 6709871 gb AW300271.1 AW300271	xs58h07.x1	NCI_CGAP_Kid11...	1144	0.0
gi 9803527 gb BE559808.1 BE559808	601346972F1	NIH_MGC_8 Hom...	1132	0.0
gi 10150139 gb BE736147.1 BE736147	601307226F1	NIH_MGC_39 H...	1094	0.0
gi 12041329 gb BF725418.1 BF725418	bx15f11.y1	Human Iris cD...	1092	0.0
gi 5108921 gb A1740633.1 A1740633	wg23g01.x1	Soares_NSF_F8 ...	1090	0.0
gi 4372796 gb A1479628.1 A1479628	tm32d07.x1	NCI_CGAP_CLL1 ...	1067	0.0
gi 6570140 gb AW237763.1 AW237763	xm81b04.x1	NCI_CGAP_Kid11...	1059	0.0
gi 8169897 gb AW978626.1 AW978626	EST390735	MAGE resequence...	1047	0.0
gi 5540213 gb A1867197.1 A1867197	wa01c10.x1	NCI_CGAP_Kid11...	1045	0.0
gi 11448154 gb BF435839.1 BF435839	nab42e01.x1	Soares_NSF_F...	1035	0.0
gi 10938383 gb BF108693.1 BF108693	7i44e02.x1	Soares_NSF_F8...	1033	0.0
gi 10036058 gb BE675517.1 BE675517	7f10f02.x1	NCI_CGAP_CLL1...	1029	0.0
gi 9970354 gb BE646054.1 BE646054	7e92d04.x1	NCI_CGAP_CLL1 ...	1011	0.0
gi 5933828 gb AW058189.1 AW058189	wv83h01.x1	Soares_thymus...	1011	0.0
gi 11251209 gb BF304472.1 BF304472	601887831F1	NIH_MGC_17 H...	1009	0.0
gi 4190356 gb A1380503.1 A1380503	tf95d02.x1	NCI_CGAP_CLL1 ...	1007	0.0
gi 5113008 gb A1744631.1 A1744631	wg04g09.x1	Soares_NSF_F8 ...	1005	0.0
gi 5450901 gb A1830241.1 A1830241	wj78h11.x1	NCI_CGAP_Lu19 ...	1003	0.0
gi 4598007 gb A1588959.1 A1588959	tk15d10.x1	Soares_NhHMPu...	999	0.0
gi 4113265 gb A1361644.1 A1361644	qy86d07.x1	NCI_CGAP_Bm25...	987	0.0
gi 11082796 gb BF195666.1 BF195666	7n86g02.x1	NCI_CGAP_Ov18...	977	0.0

gi|5232040|gb|AI765531.1|AI765531 wi81b11.x1 NCI_CGAP_Kid12... 973 0.0
gi|2463985|gb|AA612947.1|AA612947 nq38e11.s1 NCI_CGAP_Co10 ... 963 0.0
gi|12758392|gb|BG248576.1|BG248576 602400744F1 NIH_MGC_15 H... 957 0.0
gi|11682572|gb|BF590248.1|BF590248 nab22a02.x1 Soares_NSF_F8... 957 0.0
gi|4311958|gb|AI457940.1|AI457940 tj55h09.x1 Soares_NSF_F8... 957 0.0
gi|9122527|gb|BE252388.1|BE252388 601117771F1 NIH_MGC_16 Ho... 954 0.0
gi|6710832|gb|AW301155.1|AW301155 xs57a11.x1 NCI_CGAP_Kid11... 950 0.0
gi|5663387|gb|AI927423.1|AI927423 wo75e11.x1 NCI_CGAP_Pr22 ... 950 0.0
gi|5766733|gb|AI969915.1|AI969915 wq77e03.x1 NCI_CGAP_Pr28 ... 948 0.0
gi|5664220|gb|AI928256.1|AI928256 wo67a08.x1 NCI_CGAP_Pr22 ... 946 0.0
gi|1377082|gb|W68057.1|W68057 zd42h12.r1 Soares_fetal_heart... 938 0.0
gi|6746198|gb|AW316942.1|AW316942 xw13a08.x1 NCI_CGAP_Bm53... 934 0.0
gi|1959057|gb|AA306658.1|AA306658 EST177664 Jurkat T-cells ... 934 0.0
gi|9139865|gb|BE266290.1|BE266290 601191911F1 NIH_MGC_7 Hom... 932 0.0
gi|5660470|gb|AI924506.1|AI924506 wn61a01.x1 NCI_CGAP_Lu19 ... 928 0.0
gi|9803869|gb|BE560051.1|BE560051 601347483F1 NIH_MGC_8 Hom... 924 0.0
gi|2986172|gb|AA877095.1|AA877095 ob09d05.s1 NCI_CGAP_Kid3 ... 916 0.0
gi|10162316|gb|BE748324.1|BE748324 601572007F1 NIH_MGC_55 H... 914 0.0
gi|12358324|gb|BF941004.1|BF941004 hu63a05.x1 NCI_CGAP_Bm4... 908 0.0
gi|3095277|gb|AA937166.1|AA937166 ok13a08.s1 Soares_NSF_F8... 908 0.0
gi|14057456|gb|BG746803.1|BG746803 602704139F1 NIH_MGC_15 H... 904 0.0
gi|10819930|gb|BF061020.1|BF061020 7j62f12.x1 Soares_NSF_F8... 898 0.0
gi|5837771|gb|AI990886.1|AI990886 ws24b02.x1 NCI_CGAP_GC6 H... 896 0.0
gi|10941529|gb|BF111839.1|BF111839 7i36c03.x1 Soares_NSF_F8... 894 0.0
gi|10809455|gb|BF055559.1|BF055559 7j81h04.x1 Soares_NSF_F8... 888 0.0
gi|5366102|gb|AI800708.1|AI800708 tc13c01.x1 Soares_NhHMPu... 888 0.0
gi|6836760|gb|AW340134.1|AW340134 hc93g05.x1 Soares_NFL_T_G... 882 0.0
gi|3960152|gb|AI300806.1|AI300806 qn47b02.x1 NCI_CGAP_Kid5 ... 880 0.0
gi|4114754|gb|AI363133.1|AI363133 qy68c10.x1 NCI_CGAP_Bm25... 878 0.0
gi|8908766|gb|BE221448.1|BE221448 hu25b07.x1 NCI_CGAP_Mel15... 874 0.0
gi|10938643|gb|BF108953.1|BF108953 7i55a06.x1 Soares_NSF_F8... 872 0.0
gi|2740699|gb|AA722992.1|AA722992 zg89c05.s1 Soares_fetal_h... 872 0.0
gi|2279509|gb|AA535256.1|AA535256 nf93b07.s1 NCI_CGAP_Co3 H... 868 0.0
gi|2675026|gb|AA688120.1|AA688120 nv15h04.s1 NCI_CGAP_Pr22 ... 864 0.0
gi|13792425|gb|BG655016.1|BG655016 ib44h01.y1 HR85 islet Ho... 858 0.0
gi|10037307|gb|BE676766.1|BE676766 7f35c08.x1 NCI_CGAP_CLL1... 854 0.0
gi|6026228|gb|AW071230.1|AW071230 wz23e02.x1 Soares_Dieckgr... 854 0.0
gi|2161622|gb|AA447952.1|AA447952 zx11f06.r1 Soares_total_f... 850 0.0
gi|1670790|gb|AA115759.1|AA115759 zk96g06.s1 Soares_pregnan... 842 0.0
gi|14620762|gb|BI160761.1|BI160761 602864839F1 NIH_MGC_42 H... 831 0.0
gi|6452291|gb|AW183777.1|AW183777 xj87g06.x1 Soares_NFL_T_G... 817 0.0
gi|13343784|gb|BG437278.1|BG437278 602490558F1 NIH_MGC_18 H... 815 0.0
gi|3751123|gb|AI198517.1|AI198517 qf94h01.x1 Soares_placent... 815 0.0
gi|3739896|gb|AI188687.1|AI188687 qd10g06.x1 Soares_placent... 795 0.0
gi|11683021|gb|BF590610.1|BF590610 7h40f10.x1 NCI_CGAP_Co16... 791 0.0
gi|5449740|gb|AI829069.1|AI829069 wj38c05.x1 NCI_CGAP_Lu19 ... 791 0.0
gi|2336957|gb|AA565318.1|AA565318 nj37c11.s1 NCI_CGAP_AA1 H... 791 0.0
gi|1690504|gb|AA133534.1|AA133534 zk96g06.r1 Soares_pregnan... 787 0.0
gi|3232294|gb|AI017958.1|AI017958 ou30b01.x1 Soares_NFL_T_G... 777 0.0
gi|4223386|gb|AI393839.1|AI393839 tg59d07.x1 Soares_NSF_F8... 763 0.0
gi|5176495|gb|AI760828.1|AI760828 wh96e10.x1 NCI_CGAP_CLL1 ... 755 0.0
gi|4113115|gb|AI361494.1|AI361494 qy48c02.x1 NCI_CGAP_Bm23... 739 0.0
gi|3117502|gb|AA953355.1|AA953355 oo88c12.s1 NCI_CGAP_Kid5 ... 739 0.0
gi|1544002|gb|AA053347.1|AA053347 zl70h05.s1 Stratagene col... 737 0.0
gi|2241423|gb|AA505286.1|AA505286 nh95c04.s1 NCI_CGAP_Br2 H... 728 0.0
gi|2218486|gb|AA488884.1|AA488884 aa55f09.s1 NCI_CGAP_GCB1 ... 728 0.0
gi|880732|gb|H15912.1|H15912 yl27c07.s1 Soares_breast_3NbHB... 726 0.0

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gi|2445628|gb|AA604764.1|AA604764 no84f06.s1 NCI_CGAP_AA1 H... 724 0.0
 gi|3741170|gb|AI189961.1|AI189961 qd19f09.x1 Soares_placent... 722 0.0
 gi|8143250|gb|AW953567.1|AW953567 EST365637 MAGE resequence... 720 0.0
 gi|6142870|gb|AW138552.1|AW138552 UI-H-BI1-abx-f-03-0-UI.s1... 712 0.0
 gi|2901576|gb|AA828477.1|AA828477 oc42g04.s1 NCI_CGAP_GCB1 ... 694 0.0
 gi|651330|gb|T49470.1|T49470 ya75g04.s1 Stratagene placenta... 692 0.0
 gi|5544123|gb|AI870155.1|AI870155 wk99b03.x1 NCI_CGAP_Lu19 ... 688 0.0
 gi|843074|gb|R69557.1|R69557 yj82h11.r1 Soares breast 2NbHB... 684 0.0
 gi|12397550|gb|BF991225.1|BF991225 CM0-GN0162-271000-627-h0... 676 0.0
 gi|856105|gb|R79824.1|R79824 yi89a05.s1 Soares placenta Nb2... 676 0.0
 gi|7039183|gb|AW469077.1|AW469077 hc76d11.x1 NCI_CGAP_Gas4 ... 664 0.0
 gi|12356691|gb|BF939371.1|BF939371 nad94e01.x1 NCI_CGAP_Ov1... 658 0.0

>gi|14602625|gb|AAH09830.1|AAH09830 PAN2 protein [Homo sapiens]

EST Search:

Tissue type: placenta

Tissue type: T cells from T cell leukemia

Tissue type: Adult brain

Organ: brain

Tissue type: hippocampus

Tissue type: primary B-cells from tonsils (cell line)

Organ: colon

Tissue type: adenocarcinoma

Sequences producing significant alignments: (bits) Value

gi|12875608|emb|AL543130.1|AL543130 AL543130 LTI_NFL006_PL2... 1832 0.0
 gi|12943976|emb|AL579184.1|AL579184 AL579184 LTI_FL012_TC1 ... 1727 0.0
 gi|12915979|emb|AL565020.1|AL565020 AL565020 LTI_FL015_Bm1... 1505 0.0
 gi|12887406|emb|AL550433.1|AL550433 AL550433 LTI_NFL006_PL2... 1455 0.0
 gi|13974137|gb|BG702619.1|BG702619 602684333F1 NIH_MGC_95 H... 1429 0.0
 gi|14069852|gb|BG759199.1|BG759199 602710860F1 NIH_MGC_48 H... 1423 0.0
 gi|10319309|gb|BE870533.1|BE870533 601448228F1 NIH_MGC_65 H... 1283 0.0
 gi|10746413|gb|BF037954.1|BF037954 601461651F1 NIH_MGC_66 H... 1275 0.0
 gi|12943974|emb|AL579183.1|AL579183 AL579183 LTI_FL012_TC1 ... 1263 0.0
 gi|10290446|dbj|AV688583.1|AV688583 AV688583 GKC Homo sapie... 1245 0.0
 gi|10967752|gb|BF128712.1|BF128712 601810983F1 NIH_MGC_48 H... 1235 0.0
 gi|10203453|gb|BE782255.1|BE782255 601466690F1 NIH_MGC_67 H... 1231 0.0
 gi|14050138|gb|BG779821.1|BG779821 602667289F1 NIH_MGC_60 H... 1205 0.0
 gi|10919908|dbj|AV762060.1|AV762060 AV762060 MDS Homo sapie... 1183 0.0
 gi|12934358|emb|AL574292.1|AL574292 AL574292 LTI_NFL006_PL2... 1104 0.0
 gi|10289308|dbj|AV687445.1|AV687445 AV687445 GKC Homo sapie... 1100 0.0
 gi|12875574|emb|AL543096.1|AL543096 AL543096 LTI_NFL006_PL2... 1080 0.0
 gi|13339671|gb|BG433165.1|BG433165 602496421F1 NIH_MGC_75 H... 1076 0.0
 gi|10967874|gb|BF128834.1|BF128834 601811019F1 NIH_MGC_48 H... 1059 0.0
 gi|10294954|dbj|AV693091.1|AV693091 AV693091 GKC Homo sapie... 1039 0.0
 gi|10969105|gb|BF130065.1|BF130065 601817940F1 NIH_MGC_58 H... 1007 0.0
 gi|10736896|gb|BF029184.1|BF029184 601764696F1 NIH_MGC_53 H... 922 0.0

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gi|12615542|gb|BG122033.1|BG122033 602349409F1 NIH_MGC_90 H... 852 0.0
 gi|4004205|gb|AI309334.1|AI309334 qo80d08.x1 NCI_CGAP_Kid5 ... 821 0.0
 gi|1281106|gb|W07093.1|W07093 za93c06.r1 Soares_fetal_lung... 811 0.0
 gi|10300054|dbj|AV698167.1|AV698167 AV698167 GKC Homo sapie... 793 0.0
 gi|1376483|gb|W67612.1|W67612 zd41c08.r1 Soares_fetal_heart... 787 0.0
 gi|6876390|gb|AW371736.1|AW371736 CM0-BT0304-111199-093-d11... 785 0.0
 gi|13576852|gb|BG569199.1|BG569199 602588473F1 NIH_MGC_76 H... 769 0.0
 gi|1898399|gb|AA262838.1|AA262838 zs24c11.r1 NCI_CGAP_GCB1 ... 763 0.0
 gi|8155033|gb|AW965197.1|AW965197 EST377270 MAGE resequence... 753 0.0
 gi|8155021|gb|AW965185.1|AW965185 EST377258 MAGE resequence... 753 0.0
 gi|10295847|dbj|AV693984.1|AV693984 AV693984 GKC Homo sapie... 720 0.0
 gi|10208100|gb|BE786902.1|BE786902 601477765F1 NIH_MGC_68 H... 720 0.0
 gi|10294947|dbj|AV693084.1|AV693084 AV693084 GKC Homo sapie... 708 0.0
 gi|13791909|gb|BG654500.1|BG654500 ib41c07.y1 HR85 islet Ho... 680 0.0
 gi|12915977|emb|AL565019.1|AL565019 AL565019 LTI_FL015_Bm1... 678 0.0
 gi|10297856|dbj|AV695993.1|AV695993 AV695993 GKC Homo sapie... 652 0.0
 gi|1997881|gb|AA345644.1|AA345644 EST51687 Gall bladder II ... 589 e-166
 gi|4439638|gb|AI525503.1|AI525503 PT1.1_4_B01.r tumor1 Homo... 567 e-159
 gi|13703589|gb|BG181902.1|BG181902 RST760 Athersys RAGE Lib... 541 e-151
 gi|8907221|gb|BE219903.1|BE219903 hv64c09.x1 NCI_CGAP_Lu24 ... 531 e-148
 gi|841904|gb|R68387.1|R68387 yh99g01.r1 Soares_placenta Nb2... 529 e-148
 gi|13545980|gb|BG547315.1|BG547315 602574734F1 NIH_MGC_77 H... 359 1e-96
 gi|1239209|gb|N76631.1|N76631 yz79h10.r1 Soares_multiple_sc... 323 7e-86
 gi|13319146|gb|BG413593.1|BG413593 7j63f11.x1 Soares_NSF_F8... 313 7e-83
 gi|5811063|gb|AI983844.1|AI983844 wt51d12.x1 NCI_CGAP_Pan1 ... 305 2e-80
 gi|5850543|gb|AW003627.1|AW003627 wx34e03.x1 NCI_CGAP_Pit1 ... 303 7e-80
 gi|13791976|gb|BG654567.1|BG654567 ib41c07.x1 HR85 islet Ho... 291 3e-76
 gi|1844851|gb|AA224309.1|AA224309 zr15f05.r1 Stratagene NT2... 274 6e-71
 gi|5635411|gb|AI915556.1|AI915556 wg30e08.x1 Soares_NSF_F8 ... 260 9e-67
 gi|2366350|dbj|C75288.1|C75288 C75288 Human pancreatic isle... 258 4e-66
 gi|4534171|gb|AI570797.1|AI570797 tr67c10.x1 NCI_CGAP_Pan1 ... 250 9e-64
 gi|12242488|gb|BF854705.1|BF854705 RC6-FN0202-271000-011-C0... 238 3e-60
 gi|2437676|gb|AA603815.1|AA603815 nn87e11.s1 NCI_CGAP_Br2 H... 216 1e-53
 gi|4989930|gb|AI702030.1|AI702030 tq20e05.x1 NCI_CGAP_Ut1 H... 196 1e-47
 gi|11159725|gb|BF245883.1|BF245883 601864059F1 NIH_MGC_57 H... 180 7e-43
 gi|12245429|gb|BF857685.1|BF857685 RC5-FT0194-061100-031-A0... 170 7e-40
 gi|12243397|gb|BF855653.1|BF855653 RC6-FN0202-171100-012-D0... 170 7e-40
 gi|11019045|dbj|AU157524.1|AU157524 AU157524 PLACE1 Homo sa... 168 3e-39
 gi|3424383|gb|AI085960.1|AI085960 oz86g08.x1 Soares_senesce... 167 1e-38
 gi|12242489|gb|BF854706.1|BF854706 RC6-FN0202-271000-011-C0... 163 2e-37
 gi|5177517|gb|AI761761.1|AI761761 wg68a02.x1 Soares_NSF_F8 ... 157 1e-35
 gi|3075842|gb|AA926945.1|AA926945 om68g02.s1 NCI_CGAP_GC4 H... 139 2e-30
 gi|1225675|gb|N69514.1|N69514 yz79h10.s1 Soares_multiple_sc... 119 2e-24
 gi|6464995|gb|AW190515.1|AW190515 xl63b10.x1 NCI_CGAP_Pan1 ... 113 1e-22
 gi|3736368|gb|AI185730.1|AI185730 qe33b10.s1 Soares_fetal_l... 111 5e-22
 gi|6199686|gb|AW151788.1|AW151788 xf69c11.x1 NCI_CGAP_Gas4 ... 109 2e-21
 gi|4533666|gb|AI570292.1|AI570292 to77d10.x1 NCI_CGAP_Gas4 ... 109 2e-21
 gi|4648078|gb|AI623153.1|AI623153 tu89d03.x1 NCI_CGAP_Gas4 ... 105 3e-20
 gi|5744801|gb|AI952491.1|AI952491 wx74e04.x1 NCI_CGAP_Ov38 ... 92 5e-16
 gi|3870043|gb|AI261840.1|AI261840 qk11a10.x1 NCI_CGAP_Kid3 ... 90 2e-15
 gi|6834091|gb|AW337465.1|AW337465 xx57d09.x1 NCI_CGAP_Lym12... 82 5e-13
 gi|1432534|dbj|C00304.1|C00304 HUMGS0006005 Human adult (K... 72 4e-10
 gi|12767084|gb|BG257268.1|BG257268 602377984F1 NIH_MGC_92 H... 44 0.10
 gi|1367064|gb|W60305.1|W60305 zd29e01.s1 Soares_fetal_heart... 44 0.10
 gi|14065766|gb|BG755113.1|BG755113 602711428F1 NIH_MGC_48 H... 40 1.6
 gi|8472627|gb|BE082325.1|BE082325 QV2-BT0636-070500-194-h05... 40 1.6
 gi|14502208|gb|BI083878.1|BI083878 602869109F1 NIH_MGC_102 ... 38 6.2

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gi|14391900|gb|BG987830.1|BG987830 CM3-HT1150-110101-623-h0... 38 6.2
 gi|14072079|gb|BG761426.1|BG761426 602718627F1 NIH_MGC_49 H... 38 6.2
 gi|13411218|gb|BG478939.1|BG478939 602525701F1 NIH_MGC_21 H... 38 6.2
 gi|12916582|emb|AL565322.1|AL565322 AL565322 LTI_FL013_FBm... 38 6.2
 gi|12288761|gb|BF897302.1|BF897302 IL2-MT0179-281100-255-C0... 38 6.2
 gi|12057953|gb|BF732878.1|BF732878 nae16g05.x1 NCI_CGAP_Ov1... 38 6.2
 gi|11297817|gb|BF327069.1|BF327069 RC1-BN0056-230200-012-e0... 38 6.2
 gi|11766564|gb|BE963146.2|BE963146 601656952R1 NIH_MGC_67 H... 38 6.2
 gi|11102818|gb|BF209128.1|BF209128 601872828F1 NIH_MGC_54 H... 38 6.2
 gi|10357166|gb|BE894606.1|BE894606 601433223F1 NIH_MGC_72 H... 38 6.2
 gi|10314262|gb|BE865486.1|BE865486 601677815F1 NIH_MGC_53 H... 38 6.2
 gi|10201679|gb|BE780481.1|BE780481 601468751F1 NIH_MGC_67 H... 38 6.2
 gi|10162316|gb|BE748324.1|BE748324 601572007F1 NIH_MGC_55 H... 38 6.2
 gi|8485301|gb|BE094848.1|BE094848 CM2-BT0790-180400-164-a12... 38 6.2
 gi|7280198|gb|AW593003.1|AW593003 hg07b03.x1 Soares_NFL_T_G... 38 6.2
 gi|6705383|gb|AW298747.1|AW298747 UI-H-BW0-ajq-b-01-0-UI.s1... 38 6.2
 gi|6462898|gb|AW188462.1|AW188462 xj99b07.x1 NCI_CGAP_Co18 ... 38 6.2
 gi|6037073|gb|AW081921.1|AW081921 xb57d02.x1 NCI_CGAP_Eso2 ... 38 6.2
 gi|5664247|gb|AI928283.1|AI928283 wo67d07.x1 NCI_CGAP_Pr22 ... 38 6.2
 gi|3890823|gb|AI271656.1|AI271656 qi30h05.x1 Soares_NhHMPu... 38 6.2
 gi|750752|gb|R01016.1|R01016 ye87a12.r1 Soares fetal liver ... 38 6.2

>gi|14724826|ref|XP_043555.1| hypothetical protein FLJ14431 [Homo sapiens]

EST Search:

Tissue type: Adrenal gland

Organ: Liver and Spleen

Develop. stage: 20 week-post conception fetus

Organ: liver

Tissue type: adenocarcinoma, cell line

rgan: lung

Tissue type: carcinoid

Sequences producing significant alignments: (bits) Value

gi|8165991|gb|AW974788.1|AW974788 EST386893 MAGE resequence... 1057 0.0
 gi|10721718|dbj|AV704400.1|AV704400 AV704400 ADB Homo sapie... 1035 0.0
 gi|1424282|gb|W91890.1|W91890 zh47a06.r1 Soares_fetal_liver... 1031 0.0
 gi|12613045|gb|BG119539.1|BG119539 602347238F1 NIH_MGC_90 H... 989 0.0
 gi|10940429|gb|BF110739.1|BF110739 7n56b09.x1 NCI_CGAP_Lu24... 971 0.0
 gi|2657822|gb|AA677300.1|AA677300 zj61f10.s1 Soares_fetal_l... 900 0.0
 gi|2584140|gb|AA652488.1|AA652488 ns70b08.s1 NCI_CGAP_Pr2 H... 890 0.0
 gi|1472212|gb|AA011185.1|AA011185 ze22d01.s1 Soares_fetal_h... 793 0.0
 gi|14320377|gb|BG925854.1|BG925854 HNC21-1-B1.R HNC (Human ... 773 0.0
 gi|1388213|gb|W78181.1|W78181 zd68a06.r1 Soares_fetal_heart... 763 0.0
 gi|1406088|gb|W90098.1|W90098 zh77e04.s1 Soares_fetal_liver... 714 0.0
 gi|2657062|gb|AA676540.1|AA676540 zi38c04.s1 Soares_fetal_l... 698 0.0
 gi|14166353|gb|BG818766.1|BG818766 602779096F2 NCI_CGAP_Brn... 642 0.0
 gi|1406186|gb|W90196.1|W90196 zh77e04.r1 Soares_fetal_liver... 636 e-180

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>gi|14782791|ref|XP_042583.1| FabG (beta-ketoacyl-[acyl-carrier-protein]
reductase, E coli) like [Homo sapiens]

EST Search:

Tissues: Organ: lung
Tissue type: small cell carcinoma
Cell line: MGC3

Organ: pancreas
Tissue type: adenocarcinoma

Tissue type: placenta

Organ: placenta
Tissue type: choriocarcinoma

Tissue type: cervical carcinoma cell line

Organ: pancreas
Tissue type: epithelioid carcinoma cell line

Sequences producing significant alignments: (bits) Value

```
gi|10214178|gb|BE792980.1|BE792980 601585653F1 NIH_MGC_7_Ho... 1384 0.0
gi|10149821|gb|BE735829.1|BE735829 601305146F1 NIH_MGC_39_H... 1352 0.0
gi|12897211|emb|AL555459.1|AL555459 AL555459 LTI_NFL006_PL2... 1344 0.0
gi|10391209|gb|BE901734.1|BE901734 601675345F1 NIH_MGC_21_H... 1285 0.0
gi|14805093|gb|BI253554.1|BI253554 602973478F1 NIH_MGC_12_H... 1251 0.0
gi|14619885|gb|BI159884.1|BI159884 602863711F1 NIH_MGC_42_H... 1245 0.0
gi|2703586|gb|AA700623.1|AA700623 zi43a04.s1 Soares_fetal... 1203 0.0
gi|12897209|emb|AL555458.1|AL555458 AL555458 LTI_NFL006_PL2... 1183 0.0
gi|11613994|gb|BF526631.1|BF526631 602070755F1 NCI_CGAP_Bm... 1181 0.0
gi|5394035|gb|AI807469.1|AI807469 wf48b08.x1 Soares_NFL_T_G... 1170 0.0
gi|12345465|gb|BF978250.1|BF978250 602148205F1 NIH_MGC_62_H... 1142 0.0
gi|5878587|gb|AW025057.1|AW025057 wu93f03.x1 NCI_CGAP_Kid3 ... 1120 0.0
gi|5839154|gb|AI992249.1|AI992249 ws41d10.x1 NCI_CGAP_Bm25... 1067 0.0
gi|12411526|gb|BG025183.1|BG025183 602276160F1 NIH_MGC_85_H... 1027 0.0
gi|3766024|gb|AI207352.1|AI207352 qg26d10.x1 NCI_CGAP_Kid3 ... 1027 0.0
gi|4268048|gb|AI422117.1|AI422117 tf40g03.x1 NCI_CGAP_Bm23... 989 0.0
gi|2568438|gb|AA643220.1|AA643220 nr96h03.s1 NCI_CGAP_Pr25 ... 983 0.0
gi|4110767|gb|AI359146.1|AI359146 qy26b08.x1 NCI_CGAP_Bm23... 906 0.0
gi|5838543|gb|AI991715.1|AI991715 wt48a04.x1 NCI_CGAP_Pan1 ... 850 0.0
gi|5397037|gb|AI810471.1|AI810471 wb89a09.x1 NCI_CGAP_Pr28 ... 801 0.0
gi|2942259|gb|AA854721.1|AA854721 aj76h02.s1 Soares_parathy... 797 0.0
gi|4190811|gb|AI380946.1|AI380946 tg18c12.x1 NCI_CGAP_CLL1 ... 779 0.0
gi|3425472|gb|AI087049.1|AI087049 oy70b11.x1 NCI_CGAP_CLL1 ... 761 0.0
gi|6039316|gb|AW084164.1|AW084164 xc48b09.x1 NCI_CGAP_Eso2 ... 755 0.0
gi|3202509|gb|AI002175.1|AI002175 oq85b06.s1 NCI_CGAP_Kid6 ... 747 0.0
gi|2785843|gb|AA745857.1|AA745857 ny93f03.s1 NCI_CGAP_GCB1 ... 745 0.0
gi|1422483|gb|W93361.1|W93361 zd94g06.s1 Soares_fetal_heart... 731 0.0
```

>gi|14754051|ref|XP_003611.3| similar to oxidoreductase UCPA (H. sapiens)
[Homo sapiens]

EST Search:

Organ: brain
Tissue type: neuroblastoma cells

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Tissue type: placenta

Organ: kidney

Organ: lung

Tissue type: large cell carcinoma

Organ: brain

Tissue type: hypothalamus

Organ: parathyroid gland

Tissue type: parathyroid tumor

Sequences producing significant alignments: (bits) Value

```

gi|12786589|emb|AL523096.1|AL523096 AL523096 LTI_NFL003_NBC... 1550 0.0
gi|12889983|emb|AL551741.1|AL551741 AL551741 LTI_NFL006_PL2... 1457 0.0
gi|12936195|emb|AL575230.1|AL575230 AL575230 LTI_NFL006_PL2... 1296 0.0
gi|12793625|emb|AL530132.1|AL530132 AL530132 LTI_NFL001_NBC... 1289 0.0
gi|13294054|gb|BG400606.1|BG400606 602464263F1 NIH_MGC_75 H... 1271 0.0
gi|13452667|gb|BG491155.1|BG491155 602518792F1 NIH_MGC_18 H... 1237 0.0
gi|13982652|gb|BG706873.1|BG706873 602672037F1 NIH_MGC_96 H... 1229 0.0
gi|3281013|gb|AI041819.1|AI041819 oy34a10.x1 Soares_parathy... 1191 0.0
gi|13976480|gb|BG703780.1|BG703780 602686804F1 NIH_MGC_95 H... 1176 0.0
gi|14051133|gb|BG740480.1|BG740480 602633875F1 NCI_CGAP_Skn... 1170 0.0
gi|13545674|gb|BG547009.1|BG547009 602573805F1 NIH_MGC_77 H... 1168 0.0
gi|12793624|emb|AL530131.1|AL530131 AL530131 LTI_NFL001_NBC... 1168 0.0
gi|13039621|gb|BG286600.1|BG286600 602381608F1 NIH_MGC_93 H... 1152 0.0
gi|11257955|gb|BF310393.1|BF310393 601895043F1 NIH_MGC_19 H... 1146 0.0
gi|2839375|gb|AA780044.1|AA780044 zj24e12.s1 Soares_fetal_I... 1142 0.0
gi|8154981|gb|AW965145.1|AW965145 EST377218 MAGE resequence... 1138 0.0
gi|11265005|gb|BF316648.1|BF316648 601903206F1 NIH_MGC_19 H... 1134 0.0
gi|3238050|gb|AI022809.1|AI022809 ow55f02.x1 Soares_parathy... 1104 0.0
gi|4073201|gb|AI336274.1|AI336274 qt45e02.x1 Soares_fetal_I... 1096 0.0
gi|13544541|gb|BG545876.1|BG545876 602573161F1 NIH_MGC_77 H... 1094 0.0
gi|12598260|gb|BG104418.1|BG104418 602311036F1 NIH_MGC_20 H... 1086 0.0
gi|12598014|gb|BG104172.1|BG104172 602310736F1 NIH_MGC_20 H... 1080 0.0
gi|12606210|gb|BG112704.1|BG112704 602282264F1 NIH_MGC_86 H... 1065 0.0
gi|2877836|gb|AA808430.1|AA808430 oe53b08.s1 NCI_CGAP_Lu5 H... 1057 0.0
gi|6471396|gb|AW192697.1|AW192697 xl48h04.x1 NCI_CGAP_Pan1 ... 1037 0.0
gi|9323894|gb|BE378429.1|BE378429 601236767F1 NIH_MGC_44 Ho... 1035 0.0
gi|5109073|gb|AI740785.1|AI740785 wg24b10.x1 Soares_NSF_F8 ... 997 0.0
gi|5813571|gb|AI986294.1|AI986294 wz64c08.x1 NCI_CGAP_Mel15... 987 0.0
gi|3400111|gb|AI073467.1|AI073467 ov45a08.x1 Soares_testis... 983 0.0
gi|6228615|gb|AW157214.1|AW157214 au92h07.x1 Schneider_feta... 981 0.0
gi|12910323|emb|AL562168.1|AL562168 AL562168 LTI_NFL003_NBC... 979 0.0
gi|9186202|gb|BE302454.1|BE302454 ba65f04.y1 NIH_MGC_20 Hom... 979 0.0
gi|9186195|gb|BE302447.1|BE302447 ba65e04.y1 NIH_MGC_20 Hom... 963 0.0
gi|12875811|emb|AL543333.1|AL543333 AL543333 LTI_NFL006_PL2... 957 0.0
gi|2993433|gb|AA883903.1|AA883903 aj13a01.s1 Soares_parathy... 946 0.0
gi|4435368|gb|AI521233.1|AI521233 to66f02.x1 NCI_CGAP_Gas4 ... 940 0.0
gi|10350081|gb|BE891095.1|BE891095 601432208F1 NIH_MGC_72 H... 922 0.0
gi|8750771|gb|BE207373.1|BE207373 ba65e04.x1 NIH_MGC_20 Hom... 920 0.0
gi|5858190|gb|AW009412.1|AW009412 ws82c11.x1 NCI_CGAP_Co3 H... 920 0.0
gi|3255193|gb|AI034240.1|AI034240 ow09h12.x1 Soares_parathy... 916 0.0
gi|2324986|gb|AA554447.1|AA554447 nl14h10.s1 NCI_CGAP_Br2 H... 916 0.0
gi|5546002|gb|AI871953.1|AI871953 wm53h05.x1 NCI_CGAP_Ut2 H... 914 0.0

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gi|2955773|gb|AA863294.1|AA863294 og93b12.s1 NCI_CGAP_Kid5 ... 904 0.0
 gi|4598887|gb|AI589839.1|AI589839 tm81a02.x1 NCI_CGAP_Brn25... 900 0.0

>gi|13278690|gb|AAH04126.1|AAH04126 (BC004126) DKFZP566O084 protein

EST search:

99% identities to ESTs found in small cell lung cancer (tissue, cell line), ovary adenocarcinoma (cell line); pancreas adenocarcinoma (tissue); kidney hypernephroma (cell line); skin/melanotic melanoma

Sequences producing significant alignments: (bits) Value

gi|10219393|gb|BE798195.1|BE798195 601582662F1 NIH_MGC_7 Ho... 1441 0.0
 gi|10156033|gb|BE742041.1|BE742041 601594721F1 NIH_MGC_9 Ho... 1423 0.0
 gi|10150854|gb|BE736951.1|BE736951 601306912F1 NIH_MGC_39 H... 1415 0.0
 gi|10216541|gb|BE795343.1|BE795343 601586662F1 NIH_MGC_7 Ho... 1392 0.0
 gi|12678574|gb|BG171871.1|BG171871 602322675F1 NIH_MGC_89 H... 1287 0.0
 gi|9331772|gb|BE386407.1|BE386407 601273578F1 NIH_MGC_20 Ho... 1265 0.0
 gi|9148949|gb|BE274012.1|BE274012 601104628F1 NIH_MGC_14 Ho... 1255 0.0
 gi|9334357|gb|BE388992.1|BE388992 601284814F1 NIH_MGC_44 Ho... 1237 0.0
 gi|5674161|gb|AI935291.1|AI935291 wp16e06.x1 NCI_CGAP_Lu19 ... 1209 0.0
 gi|13409767|gb|BG477488.1|BG477488 602521540F1 NIH_MGC_20 H... 1180 0.0
 gi|9335068|gb|BE389703.1|BE389703 601281945F1 NIH_MGC_44 Ho... 1180 0.0
 gi|10206923|gb|BE785725.1|BE785725 601475291F1 NIH_MGC_68 H... 1160 0.0
 gi|5920966|gb|AW055263.1|AW055263 wz16b09.x1 NCI_CGAP_Ut4 H... 1148 0.0
 gi|14073190|gb|BG762537.1|BG762537 602733994F1 NIH_MGC_49 H... 1122 0.0
 gi|4524063|gb|AI565606.1|AI565606 to16g08.x1 NCI_CGAP_Ut2 H... 1090 0.0
 gi|9335871|gb|BE390506.1|BE390506 601284123F1 NIH_MGC_44 Ho... 1072 0.0
 gi|1696026|gb|AA134925.1|AA134925 zo23c07.s1 Stratagene col... 1023 0.0
 gi|2900361|gb|AA827998.1|AA827998 of10c11.s1 NCI_CGAP_Co12 ... 1021 0.0
 gi|1383218|gb|W73084.1|W73084 zd54a11.r1 Soares_fetal heart... 1013 0.0
 gi|1319356|gb|W37623.1|W37623 zc12d10.r1 Soares_parathyroid... 963 0.0
 gi|6026819|gb|AW071733.1|AW071733 ws54h10.x1 NCI_CGAP_Brn25... 959 0.0
 gi|4176147|gb|AI376157.1|AI376157 ta59e06.x1 Soares_total_f... 940 0.0
 gi|844959|gb|R71442.1|R71442 yi51f01.r1 Soares_placenta Nb2... 940 0.0
 gi|6039788|gb|AW084636.1|AW084636 xa45f07.x1 NCI_CGAP_Sar4 ... 924 0.0
 gi|2809799|gb|AA760869.1|AA760869 nz14h12.s1 NCI_CGAP_GCB1 ... 912 0.0
 gi|6039287|gb|AW084135.1|AW084135 xc37f09.x1 NCI_CGAP_Co20 ... 910 0.0
 gi|1319357|gb|W37624.1|W37624 zc12d10.s1 Soares_parathyroid... 910 0.0
 gi|2525832|gb|AA621956.1|AA621956 nq24a06.s1 NCI_CGAP_Co10 ... 902 0.0

>gi|14424501|gb|AAH09269.1|AAH09269 Unknown (protein for IMAGE:3140944) [Homo sapiens]

EST search:

97-99% identities to unknown cDNAs from lung carcinoid, neuroblastoma and mainly placenta

Sequences producing significant alignments: (bits) Value

gi|12790502|emb|AL527009.1|AL527009 AL527009 LTI_NFL003_NBC... 1893 0.0
 gi|12790549|emb|AL527056.1|AL527056 AL527056 LTI_NFL003_NBC... 1709 0.0

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gi|12937462|emb|AL575872.1|AL575872 AL575872 LTI_NFL006_PL2... 1639 0.0
 gi|12891750|emb|AL552647.1|AL552647 AL552647 LTI_NFL006_PL2... 1485 0.0
 gi|12882168|emb|AL547782.1|AL547782 AL547782 LTI_NFL006_PL2... 1441 0.0
 gi|8907775|gb|BE220457.1|BE220457 hv39e05.x1 NCI_CGAP_Lu24 ... 1251 0.0
 gi|11448101|gb|BF435786.1|BF435786 nab41g04.x1 Soares_NSF_F... 1229 0.0
 gi|10322956|gb|BE874180.1|BE874180 601484366F1 NIH_MGC_69 H... 1213 0.0
 gi|13326948|gb|BG420442.1|BG420442 602452476F1 NIH_MGC_14 H... 1195 0.0
 gi|10321982|gb|BE873206.1|BE873206 601451732F1 NIH_MGC_65 H... 1170 0.0
 gi|11511078|gb|BF445940.1|BF445940 7p16f08.x1 NCI_CGAP_Br22... 1164 0.0
 gi|10939112|gb|BF109422.1|BF109422 7l62g12.x1 Soares_NSF_F8... 1158 0.0
 gi|5127852|gb|AI749588.1|AI749588 at30h03.x1 Barstead_colon... 1148 0.0
 gi|9146194|gb|BE271998.1|BE271998 601141171F1 NIH_MGC_9 Hom... 1122 0.0
 gi|10821551|gb|BF062641.1|BF062641 7h63b10.x1 NCI_CGAP_Co16... 1067 0.0
 gi|10030710|gb|BE670169.1|BE670169 7e31b01.x1 NCI_CGAP_Lu24... 1039 0.0
 gi|12882218|emb|AL547808.1|AL547808 AL547808 LTI_NFL006_PL2... 1023 0.0
 gi|5232056|gb|AI765547.1|AI765547 wi81d04.x1 NCI_CGAP_Kid12... 987 0.0
 gi|3539100|gb|AI123334.1|AI123334 qa48b12.x1 Soares_NhHMPu... 987 0.0
 gi|9706839|gb|BE504431.1|BE504431 hz86d06.x1 NCI_CGAP_Lu24 ... 975 0.0
 gi|8278043|gb|BE017981.1|BE017981 bb74b11.y1 NIH_MGC_12 Hom... 973 0.0
 gi|10813021|gb|BF059125.1|BF059125 7k66c05.x1 NCI_CGAP_GC6 ... 928 0.0
 gi|8155988|gb|AW966152.1|AW966152 EST378225 MAGE resequence... 924 0.0
 gi|9185243|gb|BE301495.1|BE301495 bb74b11.x1 NIH_MGC_12 Hom... 914 0.0
 gi|5235374|gb|AI768865.1|AI768865 wj12g12.x1 NCI_CGAP_Kid12... 912 0.0
 gi|12387026|gb|BF984214.1|BF984214 602307642F1 NIH_MGC_88 H... 906 0.0
 gi|9512266|gb|BE466404.1|BE466404 hz21c10.x1 NCI_CGAP_GC6 H... 900 0.0

**>gi|13543367|gb|AAH05844.1|AAH05844 Unknown (protein for MGC:2723)
 [Homo sapiens]**

EST search: fetal and adult brain; neuroblastoma; leiomyosarcoma; pancreas carcinoma (cellline);
 Burkitt B cell lymphoma

Sequences producing significant alignments: (bits) Value

gi|12783362|emb|AL519869.1|AL519869 AL519869 LTI_NFL004_NBC... 1776 0.0
 gi|12783361|emb|AL519868.1|AL519868 AL519868 LTI_NFL004_NBC... 1758 0.0
 gi|12797239|emb|AL533746.1|AL533746 AL533746 LTI_FL013_FBm... 1739 0.0
 gi|12916262|emb|AL565162.1|AL565162 AL565162 LTI_FL015_Bm1... 1542 0.0
 gi|12797054|emb|AL533561.1|AL533561 AL533561 LTI_FL015_Bm1... 1443 0.0
 gi|11971146|gb|BF685738.1|BF685738 602140418F1 NIH_MGC_46 H... 1338 0.0
 gi|14178399|gb|BG830812.1|BG830812 602767532F1 NIH_MGC_42 H... 1304 0.0
 gi|12951379|emb|AL582918.1|AL582918 AL582918 LTI_NFL010_BC2... 1269 0.0
 gi|10201129|gb|BE779931.1|BE779931 601467958F1 NIH_MGC_67 H... 1229 0.0
 gi|5664763|gb|AI928864.1|AI928864 au64c05.x1 Schneider_feta... 1207 0.0
 gi|13913479|gb|BG682082.1|BG682082 602630059F1 NCI_CGAP_Skn... 1191 0.0
 gi|12417863|gb|BG028768.1|BG028768 602292961F1 NIH_MGC_86 H... 1180 0.0
 gi|12797240|emb|AL533747.1|AL533747 AL533747 LTI_FL013_FBm... 1172 0.0
 gi|12412351|gb|BG025595.1|BG025595 602274520F1 NIH_MGC_85 H... 1154 0.0
 gi|2716956|gb|AA707038.1|AA707038 zj32c08.s1 Soares_fetal_I... 1120 0.0
 gi|10203449|gb|BE782251.1|BE782251 601466684F1 NIH_MGC_67 H... 1102 0.0
 gi|7376813|gb|AW630023.1|AW630023 hh74c04.y1 NCI_CGAP_GU1 H... 1102 0.0
 gi|2357785|gb|AA579601.1|AA579601 nm71h09.s1 NCI_CGAP_Co9 H... 1086 0.0
 gi|10740475|gb|BF032763.1|BF032763 601453471F1 NIH_MGC_66 H... 1084 0.0
 gi|3253464|gb|AI032767.1|AI032767 ox13h06.x1 Soares_fetal_I... 1070 0.0
 gi|13968664|gb|BG699891.1|BG699891 602681245F1 NIH_MGC_95 H... 1051 0.0

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gi|2397741|gb|AA586927.1|AA586927 nn68g03.s1 NCI_CGAP_Lar1 ... 1013 0.0
 gi|11592515|gb|BF509217.1|BF509217 UI-H-BI4-aov-h-02-0-UI.s... 1001 0.0
 gi|5664992|gb|AI929028.1|AI929028 au64c05.y1 Schneider feta... 985 0.0
 gi|2908208|gb|AA834609.1|AA834609 od64c08.s1 NCI_CGAP_GCB1 ... 981 0.0
 gi|6589783|gb|AW246790.1|AW246790 2822178.3prime NIH_MGC_7 ... 975 0.0
 gi|13987461|gb|BG709280.1|BG709280 602674673F1 NIH_MGC_96 H... 954 0.0
 gi|6086780|gb|AW118196.1|AW118196 xd91b01.x1 Soares_NFL_T_G... 950 0.0
 gi|13987880|gb|BG709491.1|BG709491 602674765F1 NIH_MGC_96 H... 938 0.0
 gi|1633828|gb|AA088298.1|AA088298 zl84d09.r1 Stratagene col... 934 0.0
 gi|2875181|gb|AA806431.1|AA806431 oc23a07.s1 NCI_CGAP_GCB1 ... 910 0.0

>gi|10439230|dbj|BAB15467.1| unnamed protein product [Homo sapiens]

EST search: testis, melanotic melanoma, adenocarcinoma (cellline)

Sequences producing significant alignments: (bits) Value.

gi|13999456|gb|BG720269.1|BG720269 602692330F1 NIH_MGC_97 H... 1217 0.0
 gi|11975300|gb|BF689892.1|BF689892 602186442F1 NIH_MGC_49 H... 1209 0.0
 gi|10350124|gb|BE891116.1|BE891116 601432231F1 NIH_MGC_72 H... 1118 0.0
 gi|10161479|gb|BE747487.1|BE747487 601573861F1 NIH_MGC_9 Ho... 965 0.0

>gi|14764177|ref|XP_044864.1| hypothetical protein FLJ10462 [Homo sapiens]

EST search: neuroblastoma; skin; lung

Sequences producing significant alignments: (bits) Value

gi|12792604|emb|AL529111.1|AL529111 AL529111 LTI_NFL001_NBC... 1663 0.0
 gi|14052499|gb|BG741846.1|BG741846 602634860F1 NCI_CGAP_Skn... 1562 0.0
 gi|12792603|emb|AL529110.1|AL529110 AL529110 LTI_NFL001_NBC... 1505 0.0
 gi|13544215|gb|BG545550.1|BG545550 602572801F1 NIH_MGC_77 H... 1417 0.0
 gi|13459313|gb|BG497796.1|BG497796 602543069F1 NIH_MGC_60 H... 1310 0.0
 gi|13983654|gb|BG707372.1|BG707372 602672776F1 NIH_MGC_96 H... 1239 0.0
 gi|4684870|gb|AI633540.1|AI633540 th68d07.x1 Soares_NhHMPu... 1229 0.0
 gi|13342208|gb|BG435702.1|BG435702 602506802F1 NIH_MGC_79 H... 1207 0.0
 gi|10700212|gb|BE999936.1|BE999936 7h20b10.x1 NCI_CGAP_Co16... 1197 0.0
 gi|9810737|gb|BE567017.1|BE567017 601341163F1 NIH_MGC_53 Ho... 1180 0.0
 gi|11985103|gb|BF699695.1|BF699695 602127115F1 NIH_MGC_56 H... 1160 0.0
 gi|13521358|gb|BG529821.1|BG529821 602558905F1 NIH_MGC_61 H... 1120 0.0
 gi|10997231|dbj|AU136692.1|AU136692 AU136692 PLACE1 Homo sa... 1072 0.0
 gi|2207965|gb|AA479409.1|AA479409 zv21g08.r1 Soares_NhHMPu... 1057 0.0
 gi|5631452|gb|AI911597.1|AI911597 wc86a01.x1 NCI_CGAP_Co3 H... 1029 0.0
 gi|2207864|gb|AA479308.1|AA479308 zv21g08.s1 Soares_NhHMPu... 932 0.0
 gi|5865542|gb|AW016785.1|AW016785 UI-H-BI0p-abm-g-01-0-UI.s... 926 0.0

>gi|14041699|emb|CAC38443.1| dJ1033B10.9.2 (FabG (beta-ketoacyl-[acyl-carrier-protein] reductase, E coli) like, isoform 2) [Homo sapiens]

97% identical to DHB8; EST search not performed: only 180 Kbp available

>gi|14041946|dbj|BAB55045.1| (AK027337) unnamed protein product

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EST search with poor annotated entry: weak similarities with cDNAs expressed in adrenal gland, colon tumor, liver, spleen, lung

Sequences producing significant alignments: (bits) Value

```
gi|10721718|dbj|AV704400.1|AV704400 AV704400 ADB Homo sapie... 1059 0.0
gi|8165991|gb|AW974788.1|AW974788 EST386893 MAGE resequence... 1057 0.0
gi|1424282|gb|W91890.1|W91890 zh47a06.r1 Soares_fetal_liver... 1029 0.0
gi|10940429|gb|BF110739.1|BF110739 7n56b09.x1 NCI_CGAP_Lu24... 971 0.0
gi|12613045|gb|BG119539.1|BG119539 602347238F1 NIH_MGC_90 H... 950 0.0
gi|2657822|gb|AA677300.1|AA677300 zj61f10.s1 Soares_fetal_l... 900 0.0
```

putative SDRs identified with no obvious annotation as SDRs in NCBI database and/or referenced Medline/PubMed-link

>gi|11435147|ref|XP_006732.1| retinol dehydrogenase 5 (11-cis and 9-cis) [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

```
gi|8908990|gb|BE221672.1|BE221672 hu27e10.x1 NCI_CGAP_Mel15... 1146 0.0
gi|4900121|gb|AI688827.1|AI688827 wd41d07.x1 Soares_NFL_T_G... 969 0.0
gi|4618930|gb|AI609763.1|AI609763 tf83a04.x1 NCI_CGAP_Brn23... 959 0.0
gi|11081688|gb|BF195132.1|BF195132 7n15f01.x1 NCI_CGAP_Brn2... 950 0.0
gi|4264406|gb|AI418475.1|AI418475 tf74h03.x1 NCI_CGAP_Brn23... 946 0.0
gi|14292293|gb|BG911817.1|BG911817 602810064F1 NCI_CGAP_Brn... 938 0.0
gi|11593828|gb|BF510530.1|BF510530 UI-H-BI4-apa-e-11-0-UI.s... 846 0.0
gi|4114767|gb|AI363146.1|AI363146 qy55a02.x1 NCI_CGAP_Brn23... 799 0.0
gi|5854635|gb|AW005857.1|AW005857 wz80d08.x1 NCI_CGAP_Gas4 ... 797 0.0
gi|6661708|gb|AW274678.1|AW274678 xv32d08.x1 Soares_NFL_T_G... 783 0.0
gi|2525787|gb|AA621911.1|AA621911 nq30b08.s1 NCI_CGAP_Co10 ... 781 0.0
gi|5527702|gb|AI863595.1|AI863595 wj18h11.x1 NCI_CGAP_Kld12... 688 0.0
gi|1190064|gb|N48898.1|N48898 yy77e08.s1 Soares_multiple_sc... 688 0.0
gi|2505366|gb|AA618161.1|AA618161 nq14d10.s1 NCI_CGAP_Thy1 ... 686 0.0
gi|2656640|gb|AA680173.1|AA680173 zi11b06.s1 Soares_fetal_l... 684 0.0
gi|5396293|gb|AI809727.1|AI809727 wh77a07.x1 NCI_CGAP_CLL1 ... 682 0.0
gi|3279324|gb|AI040130.1|AI040130 ox08h01.x1 Soares_fetal_l... 664 0.0
gi|1448549|gb|AA004494.1|AA004494 zh87b01.r1 Soares_fetal_l... 650 0.0
gi|1018746|gb|H63945.1|H63945 yr55b01.s1 Soares fetal liver... 632 e-179
gi|1716962|gb|AA147453.1|AA147453 zl51h03.r1 Soares_pregnan... 613 e-173
gi|1524527|gb|AA046629.1|AA046629 zk62h02.r1 Soares_pregnan... 611 e-172
gi|1188267|gb|N47101.1|N47101 yy85f02.s1 Soares_multiple_sc... 601 e-169
```

>gi|13655317|ref|XP_007380.2| CGI-86 protein [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi|12908926|emb|AL561466.1|AL561466 AL561466 LTI_NFL010_BC2... 1475 0.0
 gi|12908868|emb|AL561437.1|AL561437 AL561437 LTI_NFL010_BC2... 1457 0.0
 gi|13705885|gb|BG184198.1|BG184198 RST3119 Athersys RAGE Li... 1455 0.0
 gi|10161043|gb|BE747051.1|BE747051 601580610F1 NIH_MGC_9 Ho... 1382 0.0
 gi|9141043|gb|BE267452.1|BE267452 601189745F2 NIH_MGC_7 Hom... 1285 0.0
 gi|14080921|gb|BG770268.1|BG770268 602744858F1 NIH_MGC_49 H... 1281 0.0
 gi|3308715|gb|AI052724.1|AI052724 oz27a12.x1 Soares_total_f... 1227 0.0
 gi|6300903|gb|AW161870.1|AW161870 au71a04.x1 Schneider feta... 1215 0.0
 gi|13583649|gb|BG575996.1|BG575996 602597341F1 NIH_MGC_87 H... 1189 0.0
 gi|13135151|gb|BG328713.1|BG328713 602427988F1 NIH_MGC_15 H... 1181 0.0
 gi|12337285|gb|BF970070.1|BF970070 602272338F1 NIH_MGC_84 H... 1164 0.0
 gi|11649289|gb|BF575655.1|BF575655 602133057F1 NIH_MGC_81 H... 1162 0.0
 gi|10149412|gb|BE735420.1|BE735420 601304204F1 NIH_MGC_39 H... 1160 0.0
 gi|13134589|gb|BG328151.1|BG328151 602427216F1 NIH_MGC_15 H... 1152 0.0
 gi|5633042|gb|AI913268.1|AI913268 wa10f08.x1 NCI_CGAP_Kid11... 1148 0.0
 gi|13405005|gb|BG472730.1|BG472730 602514555F1 NIH_MGC_16 H... 1114 0.0
 gi|13411959|gb|BG479680.1|BG479680 602527142F1 NIH_MGC_21 H... 1102 0.0
 gi|10888750|gb|BF106224.1|BF106224 601823412F1 NIH_MGC_77 H... 1098 0.0
 gi|10700778|gb|BF000503.1|BF000503 7h32a01.x1 NCI_CGAP_Co16... 1084 0.0
 gi|6709918|gb|AW300318.1|AW300318 xs59g06.x1 NCI_CGAP_Kid11... 1078 0.0
 gi|11947563|gb|BF673668.1|BF673668 602136388F1 NIH_MGC_83 H... 1072 0.0
 gi|11685208|gb|BF592884.1|BF592884 7j95h06.x1 NCI_CGAP_GC6 ... 1070 0.0
 gi|10984835|gb|BF115433.1|BF115433 7n81h06.x1 NCI_CGAP_Ov18... 1070 0.0
 gi|13544202|gb|BG545537.1|BG545537 602572781F1 NIH_MGC_77 H... 1061 0.0
 gi|13404427|gb|BG472241.1|BG472241 602513753F1 NIH_MGC_16 H... 1059 0.0
 gi|11951687|gb|BF677792.1|BF677792 602085496F1 NIH_MGC_83 H... 1039 0.0
 gi|10940810|gb|BF111120.1|BF111120 7n43g10.x1 NCI_CGAP_Lu24... 1027 0.0
 gi|13137281|gb|BG330843.1|BG330843 602431480F1 NIH_MGC_18 H... 1017 0.0
 gi|13971790|gb|BG701448.1|BG701448 602682670F1 NIH_MGC_95 H... 1013 0.0
 gi|11952455|gb|BF678560.1|BF678560 602086022F1 NIH_MGC_83 H... 1011 0.0
 gi|11450749|gb|BF438232.1|BF438232 7q68g12.x1 NCI_CGAP_Lu24... 1009 0.0
 gi|11060866|gb|BF182723.1|BF182723 601809222F1 NIH_MGC_18 H... 1005 0.0
 gi|6197433|gb|AW149537.1|AW149537 xf39b12.x1 NCI_CGAP_Bm50... 997 0.0
 gi|9510747|gb|BE464972.1|BE464972 hv76a11.x1 NCI_CGAP_Lu24 ... 995 0.0
 gi|13290415|gb|BG396967.1|BG396967 602433879F1 NIH_MGC_20 H... 991 0.0
 gi|9333920|gb|BE388555.1|BE388555 601281843F1 NIH_MGC_44 Ho... 975 0.0
 gi|3056175|gb|AA916783.1|AA916783 on10d05.s1 NCI_CGAP_Lu5 H... 973 0.0
 gi|10209987|gb|BE788800.1|BE788800 601475705F1 NIH_MGC_68 H... 965 0.0
 gi|6710858|gb|AW301181.1|AW301181 xs57d11.x1 NCI_CGAP_Kid11... 959 0.0
 gi|9335147|gb|BE389782.1|BE389782 601282967F1 NIH_MGC_44 Ho... 957 0.0
 gi|4985638|gb|AI697738.1|AI697738 we16g07.x1 NCI_CGAP_Lu24 ... 954 0.0
 gi|9334997|gb|BE389632.1|BE389632 601283343F1 NIH_MGC_44 Ho... 952 0.0
 gi|11649406|gb|BF575694.1|BF575694 602135311F1 NIH_MGC_81 H... 942 0.0
 gi|1371301|gb|W63721.1|W63721 zc58g09.r1 Soares_parathyroid... 934 0.0
 gi|10821341|gb|BF062431.1|BF062431 7h59a01.x1 NCI_CGAP_Co16... 926 0.0
 gi|9126816|gb|BE256444.1|BE256444 601108430F1 NIH_MGC_16 Ho... 924 0.0
 gi|11979410|gb|BF694002.1|BF694002 602082590F1 NIH_MGC_81 H... 920 0.0
 gi|9123725|gb|BE253566.1|BE253566 601108683F1 NIH_MGC_16 Ho... 914 0.0
 gi|5424673|gb|AI813458.1|AI813458 wj06f03.x1 NCI_CGAP_Kid12... 912 0.0
 gi|3419256|gb|AI082464.1|AI082464 os71e10.x1 NCI_CGAP_GC2 H... 912 0.0
 gi|13326319|gb|BG419813.1|BG419813 602453265F1 NIH_MGC_14 H... 906 0.0
 gi|11945543|gb|BF671648.1|BF671648 602151504F1 NIH_MGC_81 H... 902 0.0
 gi|5934152|gb|AW058513.1|AW058513 wx21h07.x1 NCI_CGAP_Kid11... 900 0.0
 gi|12356787|gb|BF939467.1|BF939467 nac76d02.x1 NCI_CGAP_Bm... 898 0.0
 gi|5235327|gb|AI768818.1|AI768818 wj03f04.x1 NCI_CGAP_Kid12... 890 0.0
 gi|4069463|gb|AI332904.1|AI332904 qq27e11.x1 Soares_NhHMPu... 882 0.0
 gi|11085132|gb|BF196789.1|BF196789 7n05h02.x1 NCI_CGAP_Bm2... 880 0.0

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gi|2261683|gb|AA521140.1|AA521140 aa73a10.s1 NCI_CGAP_GCB1 ... 880 0.0
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 gi|11949993|gb|BF676098.1|BF676098 602084079F1 NIH_MGC_83 H... 866 0.0
 gi|9129213|gb|BE258720.1|BE258720 601107578F1 NIH_MGC_16 Ho... 866 0.0
 gi|6717096|gb|AW304893.1|AW304893 xv90f05.x1 NCI_CGAP_Bm53... 862 0.0
 gi|3736353|gb|A1185715.1|A1185715 qe33a05.s1 Soares_fetal_I... 856 0.0
 gi|11450810|gb|BF438293.1|BF438293 7q07e04.x1 NCI_CGAP_Pr28... 852 0.0
 gi|4985507|gb|A1697607.1|A1697607 we15d01.x1 NCI_CGAP_Lu24 ... 842 0.0
 gi|5437513|gb|A1818434.1|A1818434 wk52f11.x1 NCI_CGAP_Pr22 ... 839 0.0
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 gi|1849358|gb|AA227813.1|AA227813 zr56d01.r1 Soares_NhHMPu... 837 0.0
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 gi|1306303|gb|W26018.1|W26018 18b7 Human retina cDNA random... 815 0.0
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>gi|12734537|ref|XP_005309.2| 2,4-dienoyl CoA reductase 1 precursor [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 12787985 emb AL524492.1 AL524492 AL524492 LTI_NFL003_NBC...	1859	0.0
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gi 14650504 gb B1195484.1 B1195484 602755036F1 NIH_MGC_19 H...	1469	0.0
gi 10162948 gb BE748956.1 BE748956 601571895T1 NIH_MGC_55 H...	1469	0.0
gi 14071764 gb BG761111.1 BG761111 602717444F1 NIH_MGC_49 H...	1453	0.0
gi 12672608 gb BG165905.1 BG165905 602344213F1 NIH_MGC_89 H...	1423	0.0
gi 13466606 gb BG505089.1 BG505089 602551544F1 NIH_MGC_61 H...	1404	0.0
gi 5128317 gb A1750053.1 A1750053 at35b09.x1 Barstead colon...	1400	0.0
gi 10813760 dbj AV716608.1 AV716608 AV716608 DCB Homo sapie...	1392	0.0
gi 13576811 gb BG569158.1 BG569158 602588419F1 NIH_MGC_76 H...	1370	0.0
gi 13336042 gb BG429536.1 BG429536 602501205F1 NIH_MGC_75 H...	1360	0.0
gi 13571121 gb BG563469.1 BG563469 602582557F1 NIH_MGC_76 H...	1346	0.0
gi 14047081 gb BG776764.1 BG776764 602663939F1 NIH_MGC_59 H...	1344	0.0
gi 13524113 gb BG532574.1 BG532574 602562137F1 NIH_MGC_61 H...	1344	0.0
gi 10319791 gb BE871015.1 BE871015 601449051F1 NIH_MGC_65 H...	1344	0.0
gi 10210166 gb BE788968.1 BE788968 601481053F1 NIH_MGC_68 H...	1344	0.0
gi 10206721 gb BE785523.1 BE785523 601475329F1 NIH_MGC_68 H...	1320	0.0
gi 13669956 gb BG618585.1 BG618585 602646010F1 NIH_MGC_76 H...	1306	0.0
gi 12674840 gb BG168137.1 BG168137 602341524F1 NIH_MGC_89 H...	1294	0.0
gi 13574458 gb BG566805.1 BG566805 602585688F1 NIH_MGC_76 H...	1291	0.0
gi 5393464 gb A1806898.1 A1806898 wf36f02.x1 Soares_NFL_T_G...	1291	0.0
gi 13336546 gb BG430040.1 BG430040 602499409F1 NIH_MGC_75 H...	1287	0.0
gi 10916765 dbj AV758917.1 AV758917 AV758917 MDS Homo sapie...	1279	0.0

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gi|13543379|gb|BG545240.1|BG545240 602572450F1 NIH_MGC_77 H... 1221 0.0
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gi|13337092|gb|BG430484.1|BG430484 602502057F1 NIH_MGC_75 H... 1136 0.0
gi|9809967|gb|BE566247.1|BE566247 601339193F1 NIH_MGC_53 Ho... 1134 0.0
gi|9808670|gb|BE564950.1|BE564950 601343662F1 NIH_MGC_53 Ho... 1132 0.0
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gi|13333323|gb|BG426817.1|BG426817 602492994F1 NIH_MGC_75 H... 1100 0.0
gi|3245241|gb|A1027932.1|A1027932 ov99h12.x1 Soares_testis_... 1100 0.0
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gi|10315023|gb|BE866260.1|BE866260 601679059F1 NIH_MGC_53 H... 1035 0.0
gi|12676884|gb|BG170256.1|BG170256 602321782F1 NIH_MGC_89 H... 1033 0.0
gi|11629247|gb|BF541938.1|BF541938 602068441F1 NIH_MGC_58 H... 1023 0.0
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gi|4070539|gb|A1333980.1|A1333980 qq32f10.x1 Soares_NhHMPu... 999 0.0
gi|1679318|gb|AA121670.1|AA121670 zn80d01.s1 Stratagene lun... 995 0.0
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gi|11977705|gb|BF692297.1|BF692297 602249180F1 NIH_MGC_62 H... 983 0.0
gi|9812695|gb|BE568975.1|BE568975 601342357F1 NIH_MGC_53 Ho... 981 0.0
gi|2165746|gb|AA452077.1|AA452077 zx16e11.r1 Soares_total_f... 979 0.0
gi|6040380|gb|AW085228.1|AW085228 xe07d10.x1 Soares_NFL_T_G... 973 0.0

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gi|6921257|gb|AW402560.1|AW402560 UI-HF-BK0-aax-a-08-0-UI.r... 969 0.0
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 gi|4898710|gb|A1687416.1|A1687416 tp95g10.x1 NCI_CGAP_Ut3 H... 942 0.0
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 gi|11154787|gb|BF240863.1|BF240863 601875406F2 NIH_MGC_55 H... 922 0.0
 gi|2156294|gb|AA443619.1|AA443619 zw35d11.s1 Soares ovary t... 920 0.0
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 gi|3428450|gb|AI089391.1|AI089391 qb09g07.x1 Soares_pregnan... 878 0.0
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>gi|14198251|gb|AAH08185.1|AAH08185 Unknown (protein for MGC:17181)
 [Homo sapiens]

EST Search:

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gi 10391209 gb BE901734.1 BE901734 601675345F1 NIH_MGC_21 H...	1285	0.0
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gi 14619885 gb BI159884.1 BI159884 602863711F1 NIH_MGC_42 H...	1245	0.0
gi 2703586 gb AA700623.1 AA700623 zi43a04.s1 Soares_fetal_I...	1203	0.0
gi 12897209 emb AL555458.1 AL555458 AL555458 LTI_NFL006_PL2...	1183	0.0
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gi 2568438 gb AA643220.1 AA643220 nr96h03.s1 NCI_CGAP_Pr25 ...	983	0.0
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gi 5838543 gb AI991715.1 AI991715 wt48a04.x1 NCI_CGAP_Pan1 ...	850	0.0
gi 5397037 gb AI810471.1 AI810471 wb89a09.x1 NCI_CGAP_Pr28 ...	801	0.0

>gi|5531815|gb|AAD44482.1| steroid dehydrogenase homolog [Homo sapiens]

EST Search:

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gi|13987330|gb|BG709215.1|BG709215 602675095F1 NIH_MGC_96 H... 1332 0.0

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gi|13339353|gb|BG432847.1|BG432847 602496055F1 NIH_MGC_75 H... 1285 0.0

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gi|13460516|gb|BG498986.1|BG498986 602544674F1 NIH_MGC_60 H... 1067 0.0

gi|10796504|dbj|AV714987.1|AV714987 AV714987 DCB Homo sapie... 1065 0.0

gi|12604885|gb|BG111281.1|BG111281 602283354F1 NIH_MGC_86 H... 1047 0.0

gi|14049576|gb|BG779259.1|BG779259 602665938F1 NIH_MGC_60 H... 1045 0.0

gi|11111634|gb|BF218048.1|BF218048 601882836F1 NIH_MGC_57 H... 1045 0.0

gi|12383548|gb|BF980736.1|BF980736 602303884F1 NIH_MGC_88 H... 1035 0.0

gi|14049921|gb|BG779604.1|BG779604 602668351F1 NIH_MGC_60 H... 1033 0.0

gi|11252265|gb|BF305371.1|BF305371 601892847F1 NIH_MGC_17 H... 1021 0.0

gi|13041668|gb|BG287637.1|BG287637 602384460F1 NIH_MGC_93 H... 1019 0.0

gi|12677991|gb|BG171288.1|BG171288 602322318F1 NIH_MGC_89 H... 1015 0.0

gi|4435867|gb|AI521732.1|AI521732 ti82c06.x1 NCI_CGAP_Kid11... 1007 0.0

gi|7136231|gb|AW498488.1|AW498488 EST0021 Human Fetal Brain... 1001 0.0

gi|12097334|gb|BF792280.1|BF792280 602252790F1 NIH_MGC_84 H... 991 0.0

gi|1522055|gb|AA044198.1|AA044198 zk50e08.r1 Soares_pregnan... 991 0.0

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gi|14049653|gb|BG779336.1|BG779336 602665853F1 NIH_MGC_60 H... 973 0.0
 gi|14049581|gb|BG779264.1|BG779264 602665946F1 NIH_MGC_60 H... 961 0.0
 gi|1371208|gb|W63627.1|W63627 zc56f09.r1 Soares_parathyroid... 961 0.0
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 gi|11629318|gb|BF541849.1|BF541849 602069042F1 NIH_MGC_58 H... 954 0.0
 gi|14003292|gb|BG724105.1|BG724105 602697407F1 NIH_MGC_97 H... 950 0.0
 gi|14070365|gb|BG759712.1|BG759712 602711109F1 NIH_MGC_48 H... 940 0.0
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 gi|11977542|gb|BF692134.1|BF692134 602248727F1 NIH_MGC_62 H... 920 0.0
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 gi|1694006|gb|AA132312.1|AA132312 zo17g05.s1 Stratagene col... 874 0.0
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 gi|12339937|gb|BF972722.1|BF972722 602240976F1 NIH_MGC_46 H... 856 0.0
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 gi|4486633|gb|AI554270.1|AI554270 tq05b03.x1 NCI_CGAP_Ut3 H... 852 0.0
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 gi|4372411|gb|AI479243.1|AI479243 tm56b07.x1 NCI_CGAP_Kid11... 844 0.0
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 gi|4969797|gb|AI692457.1|AI692457 wd70f09.x1 NCI_CGAP_Lu24 ... 803 0.0
 gi|7667944|gb|AW753012.1|AW753012 QV0-CT0225-011199-041-h01... 801 0.0

>gi|13183088|gb|AAK15047.1|AF237684_1 steroid dehydrogenase-like protein
 [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

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 gi|9143340|gb|BE269715.1|BE269715 601185872F1 NIH_MGC_8 Hom... 1108 0.0
 gi|9142938|gb|BE269319.1|BE269319 601186383F1 NIH_MGC_8 Hom... 1070 0.0
 gi|10809436|gb|BF055540.1|BF055540 7j81f05.x1 Soares_NSF_F8... 1068 0.0
 gi|13996002|gb|BG716815.1|BG716815 602677928F1 NIH_MGC_96 H... 1045 0.0
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 gi|9180067|gb|BE296505.1|BE296505 601174783F1 NIH_MGC_17 Ho... 1009 0.0
 gi|13968438|gb|BG699782.1|BG699782 602681486F1 NIH_MGC_95 H... 985 0.0
 gi|11682562|gb|BF590238.1|BF590238 nab21g09.x1 Soares_NSF_F... 983 0.0

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gi|9145595|gb|BE271650.1|BE271650 601141215F1 NIH_MGC_9 Hom... 965 0.0
 gi|9121356|gb|BE251234.1|BE251234 601116339F1 NIH_MGC_16 Ho... 954 0.0
 gi|11647948|gb|BF574236.1|BF574236 602131406F1 NIH_MGC_81 H... 952 0.0
 gi|8148410|gb|AW958726.1|AW958726 EST370796 MAGE resequence... 936 0.0
 gi|2154380|gb|AA442502.1|AA442502 zv59c01.r1 Soares_testis_... 862 0.0
 gi|2141613|gb|AA436699.1|AA436699 zv59c01.s1 Soares_testis_... 842 0.0

>gi|6523809|gb|AAF14864.1|AF113123_1 carbonyl reductase [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 13413874 gb BG481595.1 BG481595	602528316F1 NIH_MGC_21 H...	1511 0.0
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gi 14177680 gb BG830093.1 BG830093	602764845F1 NIH_MGC_42 H...	1491 0.0
gi 13404430 gb BG472244.1 BG472244	602513756F1 NIH_MGC_16 H...	1443 0.0
gi 14568476 gb BI117575.1 BI117575	602866754F1 NIH_MGC_7 Ho...	1419 0.0
gi 13982131 gb BG706614.1 BG706614	602674104F1 NIH_MGC_96 H...	1380 0.0
gi 13976241 gb BG703674.1 BG703674	602686647F1 NIH_MGC_95 H...	1368 0.0
gi 10390490 gb BE901372.1 BE901372	601674675F1 NIH_MGC_21 H...	1354 0.0
gi 12343809 gb BF976594.1 BF976594	602244271F1 NIH_MGC_48 H...	1326 0.0
gi 11641972 gb BF568592.1 BF568592	602184218F1 NIH_MGC_42 H...	1326 0.0
gi 11970704 gb BF685296.1 BF685296	602141648F1 NIH_MGC_46 H...	1304 0.0
gi 11252161 gb BF305282.1 BF305282	601892747F1 NIH_MGC_17 H...	1304 0.0
gi 11098442 gb BF204856.1 BF204856	601867158F1 NIH_MGC_17 H...	1300 0.0
gi 9137251 gb BE263706.1 BE263706	601192146F1 NIH_MGC_7 Hom...	1279 0.0
gi 10404479 gb BE909167.1 BE909167	601501782F1 NIH_MGC_70 H...	1277 0.0
gi 11151599 gb BF237681.1 BF237681	601841865F1 NIH_MGC_46 H...	1275 0.0
gi 9156256 gb BE281240.1 BE281240	601155341F1 NIH_MGC_21 Ho...	1275 0.0
gi 12342418 gb BF975203.1 BF975203	602244705F1 NIH_MGC_48 H...	1269 0.0
gi 14058856 gb BG748203.1 BG748203	602705827F1 NIH_MGC_43 H...	1263 0.0
gi 11263622 gb BF315274.1 BF315274	601902672F1 NIH_MGC_19 H...	1239 0.0
gi 11098117 gb BF204531.1 BF204531	601868138F1 NIH_MGC_17 H...	1237 0.0
gi 9133208 gb BE313377.1 BE313377	601147921F1 NIH_MGC_19 Ho...	1237 0.0
gi 12683322 gb BG176619.1 BG176619	602313206F1 NIH_MGC_85 H...	1235 0.0
gi 9882826 db AV661812.1 AV661812	AV661812 GLC Homo sapien...	1233 0.0
gi 12615652 gb BG122143.1 BG122143	602349585F1 NIH_MGC_90 H...	1227 0.0
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gi 4536632 gb AI573258.1 AI573258	tn03e05.x1 NCI_CGAP_Brn25...	1197 0.0
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gi 11258150 gb BF310575.1 BF310575	601895295F2 NIH_MGC_19 H...	1174 0.0
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gi 10216172 gb BE794974.1 BE794974	601589746F1 NIH_MGC_7 Ho...	1118 0.0
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gi 14620169 gb BI160168.1 BI160168	602864026F1 NIH_MGC_42 H...	1104 0.0
gi 4194952 gb AI382182.1 AI382182	te70b01.x1 Soares_NFL_T_G...	1098 0.0
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gi 11617689 gb BF530338.1 BF530338	602071618F1 NCI_CGAP_Brn...	1082 0.0
gi 9137978 gb BE264422.1 BE264422	601191730F1 NIH_MGC_7 Hom...	1080 0.0

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gi|6588571|gb|AW245578.1|AW245578 2822726.3prime NIH_MGC_7 ... 1072 0.0
 gi|14320386|gb|BG925863.1|BG925863 HNC21-1-B11.R HNC (Human... 1068 0.0
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 gi|2537901|gb|AA625514.1|AA625514 af72e06.r1 Soares_NhHMPu... 1023 0.0
 gi|1211129|gb|N63300.1|N63300 yy71a11.s1 Soares_multiple_sc... 1021 0.0
 gi|2155441|gb|AA442766.1|AA442766 zv60c08.s1 Soares_testis... 1019 0.0
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 gi|13137575|gb|BG331137.1|BG331137 602431839F1 NIH_MGC_18 H... 1013 0.0
 gi|9866354|dbj|AV645340.1|AV645340 AV645340 GLA Homo sapien... 1011 0.0
 gi|2464707|gb|AA613669.1|AA613669 no39h10.s1 NCI_CGAP_Pr23 ... 1009 0.0
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 gi|5395010|gb|AI808444.1|AI808444 wf94h12.x1 Soares_NSF_F8... 930 0.0
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 gi|1193558|gb|N52392.1|N52392 yv49g09.s1 Soares fetal liver... 910 0.0
 gi|2138860|gb|AA433946.1|AA433946 zw52g09.s1 Soares_total_f... 900 0.0
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 gi|11955171|gb|BF681276.1|BF681276 602155553F1 NIH_MGC_83 H... 894 0.0
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 gi|4598919|gb|AI589871.1|AI589871 tm81d01.x1 NCI_CGAP_Bm25... 823 0.0
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>gi|7023407|dbj|BAA91953.1| unnamed protein product [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
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 gi|12767656|gb|BG257840.1|BG257840 602377359F1 NIH_MGC_92 H... 1360 0.0
 gi|2555545|gb|AA632131.1|AA632131 np74e04.s1 NCI_CGAP_Br2 H... 1344 0.0
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 gi|13293198|gb|BG399750.1|BG399750 602441351F1 NIH_MGC_75 H... 1340 0.0
 gi|13343333|gb|BG436827.1|BG436827 602488812F1 NIH_MGC_18 H... 1336 0.0
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 gi|6947123|gb|AW419191.1|AW419191 hb73d11.x1 NCI_CGAP_Ut2 H... 1039 0.0
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 gi|3751973|gb|AI199367.1|AI199367 qi47g02.x1 NCI_CGAP_Bm25... 1013 0.0
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 gi|2837067|gb|AA777588.1|AA777588 zi98d03.s1 Soares_fetal_l... 1003 0.0
 gi|1382848|gb|W72175.1|W72175 zd61e02.s1 Soares_fetal_heart... 995 0.0
 gi|11514695|gb|BF448575.1|BF448575 7n73d05.x1 NCI_CGAP_Ov18... 991 0.0
 gi|5675100|gb|AI936230.1|AI936230 wo63e06.x1 NCI_CGAP_Pr22 ... 987 0.0
 gi|2879104|gb|AA809698.1|AA809698 nk96e07.s1 NCI_CGAP_Co3 H... 983 0.0
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 gi|12098389|gb|BF793335.1|BF793335 602254749F1 NIH_MGC_84 H... 955 0.0
 gi|3755391|gb|AI202785.1|AI202785 qi39b06.x1 NCI_CGAP_Bm25... 940 0.0
 gi|4070443|gb|AI333884.1|AI333884 qq17e01.x1 Soares_NhHMPu ... 928 0.0
 gi|3958752|gb|AI299098.1|AI299098 qn14e10.x1 NCI_CGAP_Lu5 H... 912 0.0
 gi|2732328|gb|AA719229.1|AA719229 ah45g05.s1 Soares_testis ... 912 0.0
 gi|2878736|gb|AA809330.1|AA809330 ob70c08.s1 NCI_CGAP_GCB1 ... 910 0.0
 gi|1153479|gb|N33080.1|N33080 yy33d10.s1 Soares_melanocyte ... 908 0.0
 gi|5513052|gb|AI859436.1|AI859436 wm11e11.x1 NCI_CGAP_Ut4 H... 906 0.0
 gi|5447444|gb|AI826773.1|AI826773 wk56a11.x1 NCI_CGAP_Pr22 ... 892 0.0
 gi|3241643|gb|AI026030.1|AI026030 ow03f06.s1 Soares_parathy... 890 0.0
 gi|10920186|dbj|AV762338.1|AV762338 MDS Homo sapie... 878 0.0
 gi|1471524|gb|AA010478.1|AA010478 zi09e01.r1 Soares_fetal_l... 878 0.0
 gi|2269399|gb|AA527330.1|AA527330 ng36c09.s1 NCI_CGAP_Co3 H... 870 0.0
 gi|12161980|gb|BF822251.1|BF822251 MR1-RT0041-051200-007-f1... 862 0.0
 gi|9175770|gb|BE304542.1|BE304542 601105911F1 NIH_MGC_15 Ho... 854 0.0
 gi|1959201|gb|AA306873.1|AA306873 EST177798 Jurkat T-cells ... 848 0.0

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gi|3934019|gb|AI291245.1|AI291245 qm11c01.x1 NCI_CGAP_Lu5 H... 844 0.0
 gi|2842062|gb|AA782731.1|AA782731 aj08a05.s1 Soares_parathy... 835 0.0
 gi|13916648|gb|BG685251.1|BG685251 602637158F1 NIH_MGC_48 H... 833 0.0
 gi|3086142|gb|AA931756.1|AA931756 oo77f06.s1 NCI_CGAP_Kld5 ... 827 0.0
 gi|1349991|gb|W51877.1|W51877 zc36c10.s1 Soares_senescent_f... 827 0.0
 gi|14001369|gb|BG722182.1|BG722182 602698423F1 NIH_MGC_97 H... 825 0.0
 gi|3154538|gb|AA977092.1|AA977092 oq24a03.s1 NCI_CGAP_GC4 H... 819 0.0
 gi|2113245|gb|AA429946.1|AA429946 zw67f12.s1 Soares_testis... 819 0.0
 gi|11970016|gb|BF684608.1|BF684608 602140946F1 NIH_MGC_46 H... 815 0.0
 gi|14564968|gb|BI114067.1|BI114067 602861166F2 NIH_MGC_17 H... 813 0.0
 gi|1696541|gb|AA135492.1|AA135492 zo28h02.s1 Stratagene col... 805 0.0
 gi|10159931|gb|BE745939.1|BE745939 601573574F1 NIH_MGC_9 Ho... 801 0.0

>gi|11360148|pir|T46363 hypothetical protein DKFZp434O0916.1 - human
 (fragment)

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 7848800 gb AW796930.1 AW796930 CM3-UM0034-230300-126-d05...	38	2.8
gi 7844653 gb AW792874.1 AW792874 CM3-UM0001-280100-082-e12...	38	2.8
gi 7111080 gb AW466324.1 AW466324 bbc1g1b52 Neuronal Differ...	38	2.8
gi 772618 gb R19008.1 R19008 yg26d09.r1 Soares_infant brain...	38	2.8

>gi|7023407|dbj|BAA91953.1| unnamed protein product [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 10220190 gb BE798992.1 BE798992 601583126F1 NIH_MGC_7 Ho...	1487	0.0
gi 9149748 gb BE274802.1 BE274802 601122492F1 NIH_MGC_20 Ho...	1483	0.0
gi 10158478 gb BE744486.1 BE744486 601576764F1 NIH_MGC_9 Ho...	1433	0.0
gi 15018843 gb BI334186.1 BI334186 602997649F1 NIH_MGC_12 H...	1427	0.0
gi 10155434 gb BE741442.1 BE741442 601594426F1 NIH_MGC_9 Ho...	1392	0.0
gi 12767656 gb BG257840.1 BG257840 602377359F1 NIH_MGC_92 H...	1360	0.0
gi 2555545 gb AA632131.1 AA632131 np74e04.s1 NCI_CGAP_Br2 H...	1344	0.0
gi 13961948 gb BG696620.1 BG696620 602658918F1 NCI_CGAP_Skn...	1340	0.0
gi 13293198 gb BG399750.1 BG399750 602441351F1 NIH_MGC_75 H...	1340	0.0
gi 13343333 gb BG436827.1 BG436827 602488812F1 NIH_MGC_18 H...	1336	0.0
gi 15020179 gb BI335522.1 BI335522 602997109F1 NIH_MGC_12 H...	1318	0.0
gi 12616196 gb BG122687.1 BG122687 602351815F1 NIH_MGC_90 H...	1306	0.0
gi 5848066 gb AW001150.1 AW001150 wu25a06.x1 Soares_Dieckgr...	1287	0.0
gi 9807602 gb BE563882.1 BE563882 601335069F1 NIH_MGC_39 Ho...	1283	0.0
gi 5544472 gb AI870504.1 AI870504 wi74d11.x1 NCI_CGAP_Brn25...	1275	0.0
gi 14620794 gb BI160793.1 BI160793 602864883F1 NIH_MGC_42 H...	1249	0.0
gi 11972158 gb BF686750.1 BF686750 602143895F1 NIH_MGC_46 H...	1249	0.0
gi 3887481 gb AI268314.1 AI268314 qm04c02.x1 NCI_CGAP_Lu5 H...	1241	0.0
gi 10206517 gb BE785319.1 BE785319 601474695F1 NIH_MGC_68 H...	1231	0.0
gi 10996420 dbj AU135881.1 AU135881 AU135881 PLACE1 Homo sa...	1227	0.0
gi 6588855 gb AW245862.1 AW245862 2822884.5prime NIH_MGC_7 ...	1140	0.0
gi 3425727 gb AI087304.1 AI087304 oz77h11.x1 Soares_senesce...	1136	0.0
gi 3400045 gb AI073401.1 AI073401 ov46a12.x1 Soares_testis...	1128	0.0

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gi|3601194|gb|AI131178.1|AI131178 qc15d06.x1 Soares_fetal_h... 1118 0.0
 gi|2269422|gb|AA527353.1|AA527353 ng40a12.s1 NCI_CGAP_Co3 H... 1104 0.0
 gi|10811999|gb|BF058103.1|BF058103 7k38d05.x1 NCI_CGAP_Ov18... 1102 0.0
 gi|9323511|gb|BE378146.1|BE378146 601237876F1 NIH_MGC_44 Ho... 1084 0.0
 gi|3917423|gb|AI279189.1|AI279189 qm24a07.x1 NCI_CGAP_Lu5 H... 1076 0.0
 gi|6947123|gb|AW419191.1|AW419191 hb73d11.x1 NCI_CGAP_Ut2 H... 1039 0.0
 gi|1941184|gb|AA293161.1|AA293161 zt55e02.s1 Soares_ovary t... 1029 0.0
 gi|9260951|gb|BE349176.1|BE349176 ht49c06.x1 NCI_CGAP_Mel15... 1015 0.0
 gi|8147307|gb|AW957624.1|AW957624 EST369694 MAGE resequence... 1015 0.0
 gi|3751973|gb|AI199367.1|AI199367 qi47g02.x1 NCI_CGAP_Brn25... 1013 0.0
 gi|13793809|gb|BG656400.1|BG656400 ib36h12.x1 HR85 islet Ho... 1009 0.0
 gi|2837067|gb|AA777588.1|AA777588 zi98d03.s1 Soares_fetal_l... 1003 0.0
 gi|1382848|gb|W72175.1|W72175 zd61e02.s1 Soares_fetal_heart... 995 0.0
 gi|11514695|gb|BF448575.1|BF448575 7n73d05.x1 NCI_CGAP_Ov18... 991 0.0
 gi|5675100|gb|AI936230.1|AI936230 wo63e06.x1 NCI_CGAP_Pr22 ... 987 0.0
 gi|2879104|gb|AA809698.1|AA809698 nk96e07.s1 NCI_CGAP_Co3 H... 983 0.0
 gi|2563616|gb|AA639837.1|AA639837 nq85a11.s1 NCI_CGAP_Co9 H... 983 0.0
 gi|6026748|gb|AW071823.1|AW071823 ws54b01.x1 NCI_CGAP_Brn25... 981 0.0
 gi|2270176|gb|AA528107.1|AA528107 nj15a09.s1 NCI_CGAP_Pr22 ... 957 0.0
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 gi|3755391|gb|AI202785.1|AI202785 qi39b06.x1 NCI_CGAP_Brn25... 940 0.0
 gi|4070443|gb|AI333884.1|AI333884 qq17e01.x1 Soares_NhHMPu... 928 0.0
 gi|3958752|gb|AI299098.1|AI299098 qn14e10.x1 NCI_CGAP_Lu5 H... 912 0.0
 gi|2732328|gb|AA719229.1|AA719229 ah45g05.s1 Soares_testis... 912 0.0
 gi|2878736|gb|AA809330.1|AA809330 ob70c08.s1 NCI_CGAP_GCB1 ... 910 0.0
 gi|1153479|gb|N33080.1|N33080 yy33d10.s1 Soares_melanocyte ... 908 0.0
 gi|5513052|gb|AI859436.1|AI859436 wm11e11.x1 NCI_CGAP_Ut4 H... 906 0.0
 gi|5447444|gb|AI826773.1|AI826773 wk56a11.x1 NCI_CGAP_Pr22 ... 892 0.0
 gi|3241643|gb|AI026030.1|AI026030 ow03f06.s1 Soares_parathy... 890 0.0
 gi|10920186|dbj|AV762338.1|AV762338 AV762338 MDS_Homo_sapie... 878 0.0
 gi|1471524|gb|AA010478.1|AA010478 zi09e01.r1 Soares_fetal_l... 878 0.0
 gi|2269399|gb|AA527330.1|AA527330 ng36c09.s1 NCI_CGAP_Co3 H... 870 0.0
 gi|12161980|gb|BF822251.1|BF822251 MR1-RT0041-051200-007-f1... 862 0.0
 gi|9175770|gb|BE304542.1|BE304542 601105911F1 NIH_MGC_15 Ho... 854 0.0
 gi|1959201|gb|AA306873.1|AA306873 EST177798 Jurkat T-cells ... 848 0.0
 gi|3934019|gb|AI291245.1|AI291245 qm11c01.x1 NCI_CGAP_Lu5 H... 844 0.0
 gi|2842062|gb|AA782731.1|AA782731 aj08a05.s1 Soares_parathy... 835 0.0
 gi|13916648|gb|BG685251.1|BG685251 602637158F1 NIH_MGC_48 H... 833 0.0
 gi|3086142|gb|AA931756.1|AA931756 oo77f06.s1 NCI_CGAP_Kid5 ... 827 0.0
 gi|1349991|gb|W51877.1|W51877 zc36c10.s1 Soares_senescent_f... 827 0.0
 gi|14001369|gb|BG722182.1|BG722182 602698423F1 NIH_MGC_97 H... 825 0.0
 gi|3154538|gb|AA977092.1|AA977092 oq24a03.s1 NCI_CGAP_GC4 H... 819 0.0
 gi|2113245|gb|AA429946.1|AA429946 zw67f12.s1 Soares_testis... 819 0.0
 gi|11970016|gb|BF684608.1|BF684608 602140946F1 NIH_MGC_46 H... 815 0.0
 gi|14564968|gb|B1114067.1|B1114067 602861166F2 NIH_MGC_17 H... 813 0.0
 gi|1696541|gb|AA135492.1|AA135492 zo28h02.s1 Stratagene_col... 805 0.0
 gi|10159931|gb|BE745939.1|BE745939 601573574F1 NIH_MGC_9 Ho... 801 0.0

>gi|14734800|ref|XP_002640.3| peroxisomal trans 2-enoyl CoA reductase;
putative short chain al [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 12789234 emb AL525741.1 AL525741 AL525741 LTI_NFL003_NBC...		1826 0.0

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gi|12791177|emb|AL527684.1|AL527684 AL527684 LTI_NFL003_NBC... 1663 0.0
gi|12786798|emb|AL523305.1|AL523305 AL523305 LTI_NFL003_NBC... 1532 0.0
gi|14053003|gb|BG742350.1|BG742350 602631722F1 NCI_CGAP_Skn... 1503 0.0
gi|14045131|gb|BG774814.1|BG774814 602662684F1 NIH_MGC_21 H... 1415 0.0
gi|14052853|gb|BG742200.1|BG742200 602634087F1 NCI_CGAP_Skn... 1396 0.0
gi|9873450|dbj|AV652436.1|AV652436 AV652436 GLC Homo sapien... 1348 0.0
gi|12786797|emb|AL523304.1|AL523304 AL523304 LTI_NFL003_NBC... 1336 0.0
gi|13722475|gb|BG200900.1|BG200900 RST20108 Athersys RAGE L... 1336 0.0
gi|12911098|emb|AL562558.1|AL562558 AL562558 LTI_NFL003_NBC... 1166 0.0
gi|5232357|gb|AI765848.1|AI765848 wi85c03.x1 NCI_CGAP_Kid12... 1134 0.0
gi|10914602|dbj|AV756754.1|AV756754 AV756754 BM Homo sapien... 1100 0.0
gi|8907537|gb|BE220231.1|BE220231 hv69f02.x1 NCI_CGAP_Lu24 ... 1017 0.0
gi|14053002|gb|BG742349.1|BG742349 602631721F1 NCI_CGAP_Skn... 995 0.0
gi|10938068|gb|BF108369.1|BF108369 7n62f05.x1 NCI_CGAP_Lu24... 993 0.0
gi|4303253|gb|AI435448.1|AI435448 th94e11.x1 Soares_NSF_F8... 906 0.0
gi|11363688|gb|BF382385.1|BF382385 601815316F2 NIH_MGC_56 H... 896 0.0
gi|9792594|gb|BE550902.1|BE550902 7b65g01.x1 NCI_CGAP_Lu24 ... 894 0.0
gi|9184025|gb|BE300277.1|BE300277 600944051T1 NIH_MGC_17 Ho... 858 0.0
gi|9155968|gb|BE280956.1|BE280956 601155875F1 NIH_MGC_21 Ho... 852 0.0
gi|12041930|gb|BF726019.1|BF726019 bx23a05.y1 Human Iris cD... 844 0.0
gi|12135102|gb|BF806113.1|BF806113 MR1-CI0183-071100-001-f0... 841 0.0
gi|4312182|gb|AI458176.1|AI458176 tj94c11.x1 NCI_CGAP_Lu24 ... 807 0.0

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SDRs identified with "SDR region" mostly by automated alignment (BLAST Domain) and unreviewed description in NCBI database (identification might be " putative" SDR or "putative" protein); substrate and/or function might be unknown. Exceptions may be for example known hydroxysteroid dehydrogenases like 17-beta HSD1-10 and 11-beta-HSD1-2 and retinol/retinal dehydrogenases

>gi|65913|pir||DEHUE7 estradiol 17beta-dehydrogenase (EC 1.1.1.62) type 1 - human

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 12887229 emb AL550345.1 AL550345	AL550345 LTI_NFL006_PL2...	1675 0.0
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gi 12877696 emb AL545215.1 AL545215	AL545215 LTI_NFL006_PL2...	1663 0.0
gi 12878160 emb AL545678.1 AL545678	AL545678 LTI_NFL006_PL2...	1651 0.0
gi 12889399 emb AL551445.1 AL551445	AL551445 LTI_NFL006_PL2...	1641 0.0
gi 12893008 emb AL553301.1 AL553301	AL553301 LTI_NFL006_PL2...	1639 0.0
gi 12875567 emb AL543089.1 AL543089	AL543089 LTI_NFL006_PL2...	1618 0.0
gi 12894623 emb AL554134.1 AL554134	AL554134 LTI_NFL006_PL2...	1564 0.0
gi 12880090 emb AL546712.1 AL546712	AL546712 LTI_NFL006_PL2...	1524 0.0
gi 12884123 emb AL548779.1 AL548779	AL548779 LTI_NFL006_PL2...	1451 0.0
gi 12882682 emb AL548045.1 AL548045	AL548045 LTI_NFL006_PL2...	1417 0.0
gi 12928450 emb AL571296.1 AL571296	AL571296 LTI_NFL006_PL2...	1300 0.0
gi 10995327 dbj AU134788.1 AU134788	AU134788 PLACE1 Homo sa...	1231 0.0
gi 11000660 dbj AU139139.1 AU139139	AU139139 PLACE1 Homo sa...	1215 0.0
gi 12876594 emb AL544115.1 AL544115	AL544115 LTI_NFL006_PL2...	1191 0.0
gi 11000409 dbj AU138888.1 AU138888	AU138888 PLACE1 Homo sa...	1185 0.0
gi 10996612 dbj AU136073.1 AU136073	AU136073 PLACE1 Homo sa...	1185 0.0
gi 12935757 emb AL575009.1 AL575009	AL575009 LTI_NFL006_PL2...	1176 0.0
gi 12929750 emb AL571950.1 AL571950	AL571950 LTI_NFL006_PL2...	1160 0.0
gi 11000929 dbj AU139408.1 AU139408	AU139408 PLACE1 Homo sa...	1154 0.0
gi 12925425 emb AL569763.1 AL569763	AL569763 LTI_NFL006_PL2...	1118 0.0
gi 12938593 emb AL576443.1 AL576443	AL576443 LTI_NFL006_PL2...	1110 0.0
gi 12874250 emb AL542321.1 AL542321	AL542321 LTI_FL002_PL1 ...	1078 0.0
gi 12887536 emb AL550503.1 AL550503	AL550503 LTI_NFL006_PL2...	1023 0.0
gi 12927925 emb AL571031.1 AL571031	AL571031 LTI_NFL006_PL2...	983 0.0
gi 12884042 emb AL548739.1 AL548739	AL548739 LTI_NFL006_PL2...	981 0.0
gi 11001082 dbj AU139561.1 AU139561	AU139561 PLACE1 Homo sa...	979 0.0
gi 12882968 emb AL548193.1 AL548193	AL548193 LTI_NFL006_PL2...	952 0.0
gi 10996347 dbj AU135808.1 AU135808	AU135808 PLACE1 Homo sa...	902 0.0
gi 10996163 dbj AU135624.1 AU135624	AU135624 PLACE1 Homo sa...	896 0.0
gi 11000650 dbj AU139129.1 AU139129	AU139129 PLACE1 Homo sa...	894 0.0
gi 11000302 dbj AU138781.1 AU138781	AU138781 PLACE1 Homo sa...	894 0.0
gi 10999181 dbj AU137660.1 AU137660	AU137660 PLACE1 Homo sa...	894 0.0
gi 11000400 dbj AU138879.1 AU138879	AU138879 PLACE1 Homo sa...	886 0.0
gi 10941914 gb BF112224.1 BF112224	7142c05.x1 Soares_NSF_F8...	825 0.0
gi 12872814 emb AL541595.1 AL541595	AL541595 LTI_FL002_PL1 ...	799 0.0
gi 10941804 gb BF112114.1 BF112114	7140e05.x1 Soares_NSF_F8...	779 0.0
gi 10999521 dbj AU138000.1 AU138000	AU138000 PLACE1 Homo sa...	696 0.0
gi 12939576 emb AL576938.1 AL576938	AL576938 LTI_NFL006_PL2...	686 0.0
gi 10997013 dbj AU136474.1 AU136474	AU136474 PLACE1 Homo sa...	682 0.0
gi 1571801 dbj C17094.1 C17094	C17094 Clontech human aorta ...	682 0.0
gi 1722365 gb AA150854.1 AA150854	zl44b07.r1 Soares_pregnan...	666 0.0
gi 1579212 dbj C17609.1 C17609	C17609 Human placenta cDNA (...)	660 0.0
gi 11018663 dbj AU157142.1 AU157142	AU157142 PLACE1 Homo sa...	652 0.0

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gi|2718881|gb|AA708963.1|AA708963 z158g02.s1 Soares_pregnan... 648 0.0
 gi|12875835|emb|AL543357.1|AL543357 AL543357 LTI_NFL006_PL2... 626 e-
 177
 gi|10941920|gb|BF112230.1|BF112230 7142d05.x1 Soares_NSF_F8... 618 e-
 174
 gi|2715031|gb|AA705113.1|AA705113 zj94h11.s1 Soares_fetal_l... 597 e-
 168
 gi|12442104|gb|BG002508.1|BG002508 MR3-GN0186-171100-005-e0... 595 e-
 167
 gi|1722257|gb|AA150545.1|AA150545 z144b07.s1 Soares_pregnan... 593 e-
 167
 gi|12396831|gb|BF990506.1|BF990506 RC0-GN0133-261000-031-c0... 585 e-
 164
 gi|1722312|gb|AA150800.1|AA150800 z146b07.r1 Soares_pregnan... 581 e-
 163
 gi|4435924|gb|AI521789.1|AI521789 ti77d11.x1 NCI_CGAP_Kid11... 579 e-
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 gi|12923868|emb|AL568983.1|AL568983 AL568983 LTI_FL002_PL1 ... 575 e-
 161
 gi|12926714|emb|AL570422.1|AL570422 AL570422 LTI_NFL006_PL2... 557 e-
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 gi|4665448|gb|AI628648.1|AI628648 ty77e09.x1 NCI_CGAP_Kid11... 553 e-
 155
 gi|848714|gb|R74344.1|R74344 y101f08.s1 Soares breast 2NbHB... 551 e-
 154

>gi|4504503|ref|NP_002144.1| hydroxysteroid (17-beta) dehydrogenase 2 [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi|12927087|emb|AL570611.1|AL570611 AL570611 LTI_NFL006_PL2... 2095 0.0
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 gi|12928176|emb|AL571159.1|AL571159 AL571159 LTI_NFL006_PL2... 1832 0.0
 gi|12938929|emb|AL576614.1|AL576614 AL576614 LTI_NFL006_PL2... 1818 0.0
 gi|12891054|emb|AL552292.1|AL552292 AL552292 LTI_NFL006_PL2... 1810 0.0
 gi|12879139|emb|AL546227.1|AL546227 AL546227 LTI_NFL006_PL2... 1806 0.0
 gi|12890884|emb|AL552206.1|AL552206 AL552206 LTI_NFL006_PL2... 1764 0.0
 gi|12936979|emb|AL575629.1|AL575629 AL575629 LTI_NFL006_PL2... 1760 0.0
 gi|12893833|emb|AL553729.1|AL553729 AL553729 LTI_NFL006_PL2... 1746 0.0
 gi|12927335|emb|AL570735.1|AL570735 AL570735 LTI_NFL006_PL2... 1719 0.0
 gi|12877918|emb|AL545437.1|AL545437 AL545437 LTI_NFL006_PL2... 1719 0.0
 gi|12937110|emb|AL575695.1|AL575695 AL575695 LTI_NFL006_PL2... 1673 0.0
 gi|12928206|emb|AL571174.1|AL571174 AL571174 LTI_NFL006_PL2... 1631 0.0
 gi|12877180|emb|AL544700.1|AL544700 AL544700 LTI_NFL006_PL2... 1600 0.0
 gi|12877944|emb|AL545463.1|AL545463 AL545463 LTI_NFL006_PL2... 1582 0.0
 gi|12893532|emb|AL553572.1|AL553572 AL553572 LTI_NFL006_PL2... 1542 0.0
 gi|12886959|emb|AL550209.1|AL550209 AL550209 LTI_NFL006_PL2... 1532 0.0
 gi|12934254|emb|AL574239.1|AL574239 AL574239 LTI_NFL006_PL2... 1507 0.0
 gi|12933073|emb|AL573641.1|AL573641 AL573641 LTI_NFL006_PL2... 1489 0.0
 gi|12940371|emb|AL577339.1|AL577339 AL577339 LTI_NFL006_PL2... 1459 0.0
 gi|12939042|emb|AL576670.1|AL576670 AL576670 LTI_NFL006_PL2... 1435 0.0

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gi|13580329|gb|BG572676.1|BG572676 602593783F1 NIH_MGC_79 H... 1425 0.0
 gi|12885339|emb|AL549395.1|AL549395 AL549395 LTI_NFL006_PL2... 1404 0.0
 gi|13669901|gb|BG618530.1|BG618530 602645433F2 NIH_MGC_76 H... 1382 0.0
 gi|13575119|gb|BG567466.1|BG567466 602585994F1 NIH_MGC_76 H... 1354 0.0
 gi|11000555|dbj|AU139034.1|AU139034 AU139034 PLACE1 Homo sa... 1338 0.0
 gi|13670494|gb|BG619123.1|BG619123 602616490F1 NIH_MGC_79 H... 1332 0.0
 gi|9719951|gb|BE512678.1|BE512678 601171639F1 NIH_MGC_15 Ho... 1310 0.0
 gi|10995811|dbj|AU135272.1|AU135272 AU135272 PLACE1 Homo sa... 1294 0.0
 gi|13519989|gb|BG528452.1|BG528452 602579896F1 NIH_MGC_60 H... 1279 0.0
 gi|12940459|emb|AL577384.1|AL577384 AL577384 LTI_NFL006_PL2... 1191 0.0
 gi|9869431|dbj|AV648417.1|AV648417 AV648417 GLC Homo sapien... 1148 0.0
 gi|10286850|dbj|AV684987.1|AV684987 AV684987 GKC Homo sapie... 1138 0.0
 gi|9871386|dbj|AV650372.1|AV650372 AV650372 GLC Homo sapien... 1128 0.0
 gi|8141093|gb|AW951420.1|AW951420 EST363490 MAGE resequence... 1094 0.0
 gi|9874839|dbj|AV653825.1|AV653825 AV653825 GLC Homo sapien... 1076 0.0
 gi|9812898|gb|BE569178.1|BE569178 601338993F2 NIH_MGC_53 Ho... 1037 0.0
 gi|12041605|gb|BF725694.1|BF725694 bx18g03.y1 Human Iris cD... 1013 0.0
 gi|12940352|emb|AL577329.1|AL577329 AL577329 LTI_NFL006_PL2... 999 0.0
 gi|10300921|dbj|AV698950.1|AV698950 AV698950 GKC Homo sapie... 989 0.0
 gi|10297535|dbj|AV695672.1|AV695672 AV695672 GKC Homo sapie... 989 0.0
 gi|10289123|dbj|AV687260.1|AV687260 AV687260 GKC Homo sapie... 989 0.0
 gi|13572512|gb|BG564859.1|BG564859 602589807F1 NIH_MGC_76 H... 977 0.0
 gi|10301035|dbj|AV699064.1|AV699064 AV699064 GKC Homo sapie... 959 0.0
 gi|5436727|gb|AI817648.1|AI817648 td15a06.x1 NCI_CGAP_Co16 ... 950 0.0
 gi|13669619|gb|BG618248.1|BG618248 602645981F1 NIH_MGC_76 H... 942 0.0
 gi|3734912|gb|AI184274.1|AI184274 qc63f10.x1 Soares_placent... 942 0.0
 gi|3601482|gb|AI131466.1|AI131466 qc09c01.x1 Soares_fetal_h... 936 0.0
 gi|1137815|gb|N23665.1|N23665 yw40b12.s1 Weizmann Olfactory... 910 0.0
 gi|4223511|gb|AI393964.1|AI393964 tg11d10.x1 NCI_CGAP_CLL1 ... 906 0.0
 gi|10297172|dbj|AV695309.1|AV695309 AV695309 GKC Homo sapie... 898 0.0
 gi|10822421|gb|BF063511.1|BF063511 7h81e04.x1 NCI_CGAP_Co16... 860 0.0
 gi|11107323|gb|BF213737.1|BF213737 601847627F1 NIH_MGC_55 H... 858 0.0
 gi|11107339|gb|BF213753.1|BF213753 601847652F1 NIH_MGC_55 H... 852 0.0
 gi|10289096|dbj|AV687233.1|AV687233 AV687233 GKC Homo sapie... 848 0.0
 gi|6039642|gb|AW084490.1|AW084490 wz24e10.x1 Soares_Dieckgr... 837 0.0
 gi|9881634|dbj|AV660620.1|AV660620 AV660620 GLC Homo sapien... 829 0.0
 gi|9719903|gb|BE512784.1|BE512784 601171544F1 NIH_MGC_15 Ho... 823 0.0
 gi|10297603|dbj|AV695740.1|AV695740 AV695740 GKC Homo sapie... 813 0.0
 gi|11108307|gb|BF214721.1|BF214721 601846621F1 NIH_MGC_55 H... 801 0.0

>gi|4557649|ref|NP_000188.1| estradiol 17 beta-dehydrogenase 3; 17-beta-HSD3
 [Homo sapiens]

EST Search:

N62871 multiple sclerosis lesion

N77777 multiple sclerosis lesion

Sequences producing significant alignments: (bits) Value

gi|3429912|gb|AI090853.1|AI090853 ov44f05.x1 Soares_testis... 1380 0.0
 gi|2154248|gb|AA442370.1|AA442370 zv62c08.r1 Soares_testis... 1053 0.0
 gi|2154226|gb|AA442348.1|AA442348 zv62a08.r1 Soares_testis... 1043 0.0
 gi|2142185|gb|AA437271.1|AA437271 zv62a08.s1 Soares_testis... 1017 0.0

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gi|2142205|gb|AA437291.1|AA437291 zv62c08.s1 Soares_testis_... 1003 0.0
 gi|1210700|gb|N62871.1|N62871 yz83e04.s1 Soares_multiple_sc... 797 0.0
 gi|1783826|gb|AA194135.1|AA194135 zr37f08.r1 Soares_NhHMPu_... 769 0.0
 gi|6073356|gb|AW102743.1|AW102743 xd70e10.x1 Soares_NFL_T_G... 718 0.0

 gi|2993224|gb|AA883694.1|AA883694 al58b05.s1 Soares_NFL_T_G... 626 e-
 177
 gi|2837959|gb|AA778628.1|AA778628 af87b08.s1 Soares_testis_... 517 e-
 144
 gi|5446033|gb|AI825362.1|AI825362 wb17e09.x1 NCI_CGAP_GC6 H... 507 e-
 141
 gi|4682494|gb|AI631164.1|AI631164 ts93d10.x1 NCI_CGAP_GC6 H... 500 e-
 139

>gi|1706396|sp|P51659|DHB4_HUMAN ESTRADIOL 17 BETA-
 DEHYDROGENASE 4 (17-BETA-HSD 4) (17-BETA-HYDROXYSTEROID
 DEHYDROGENASE 4)

EST Search:

Sequences producing significant alignments: (bits) Value

gi|12797915|emb|AL534422.1|AL534422 AL534422 LTI_FL013_FBm... 1741 0.0
 gi|12929551|emb|AL571847.1|AL571847 AL571847 LTI_NFL006_PL2... 1731 0.0
 gi|12795330|emb|AL531837.1|AL531837 AL531837 LTI_NFL001_NBC... 1659 0.0
 gi|13908294|gb|BG676897.1|BG676897 602623506F1 NCI_CGAP_Skn... 1631 0.0
 gi|12914346|emb|AL564189.1|AL564189 AL564189 LTI_NFL001_NBC... 1586 0.0
 gi|12879740|emb|AL546532.1|AL546532 AL546532 LTI_NFL006_PL2... 1524 0.0
 gi|10949847|dbj|AU125131.1|AU125131 AU125131 NT2RM4 Homo sa... 1479 0.0
 gi|10948684|dbj|AU123968.1|AU123968 AU123968 NT2RM2 Homo sa... 1479 0.0
 gi|10992681|dbj|AU132327.1|AU132327 AU132327 NT2RP3 Homo sa... 1437 0.0
 gi|3214525|gb|AI005015.1|AI005015 ou91a01.x1 NCI_CGAP_Kid3 ... 1427 0.0
 gi|13721603|gb|BG199916.1|BG199916 RST19212 Athersys RAGE L... 1413 0.0
 gi|3674126|gb|AI146444.1|AI146444 qb93a03.x1 Soares_fetal_h... 1402 0.0
 gi|13911524|gb|BG680127.1|BG680127 602628285F1 NCI_CGAP_Skn... 1394 0.0
 gi|3412550|gb|AI078142.1|AI078142 oz30b04.x1 Soares_total_f... 1394 0.0
 gi|10991451|dbj|AU131097.1|AU131097 AU131097 NT2RP3 Homo sa... 1374 0.0
 gi|5409861|emb|AL040917.1|AL040917 DKFZp434J2215_s1 434 (sy... 1372 0.0
 gi|10795143|dbj|AV713626.1|AV713626 AV713626 DCB Homo sapie... 1348 0.0
 gi|10991758|dbj|AU131404.1|AU131404 AU131404 NT2RP3 Homo sa... 1346 0.0
 gi|10932266|dbj|AU117308.1|AU117308 AU117308 HEMBA1 Homo sa... 1346 0.0
 gi|10996985|dbj|AU136446.1|AU136446 AU136446 PLACE1 Homo sa... 1344 0.0
 gi|11004302|dbj|AU142781.1|AU142781 AU142781 Y79AA1 Homo sa... 1328 0.0
 gi|10144826|gb|BE730834.1|BE730834 601569914F1 NIH_MGC_21 H... 1316 0.0
 gi|9769065|gb|BE540420.1|BE540420 601065826F1 NIH_MGC_10 Ho... 1308 0.0
 gi|12429277|gb|BG035291.1|BG035291 602324913F1 NIH_MGC_90 H... 1304 0.0
 gi|10992834|dbj|AU132480.1|AU132480 AU132480 NT2RP3 Homo sa... 1292 0.0
 gi|10365912|gb|BE898933.1|BE898933 601682360F1 NIH_MGC_9 Ho... 1292 0.0
 gi|3002065|gb|AA886957.1|AA886957 oi14e10.s1 NCI_CGAP_GC4 H... 1291 0.0
 gi|8169585|gb|AW978321.1|AW978321 EST390430 MAGE resequence... 1283 0.0
 gi|10579372|gb|BE968667.1|BE968667 601650086F1 NIH_MGC_74 H... 1279 0.0
 gi|10352702|gb|BE892403.1|BE892403 601433879F1 NIH_MGC_72 H... 1273 0.0
 gi|14512082|gb|BI093752.1|BI093752 602860460F1 NIH_MGC_10 H... 1269 0.0
 gi|6439061|gb|AW173113.1|AW173113 xj83d12.x1 Soares_NFL_T_G... 1247 0.0
 gi|11264224|gb|BF315938.1|BF315938 601895882F1 NIH_MGC_19 H... 1231 0.0

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gi|10321137|gb|BE872361.1|BE872361 601448614F1 NIH_MGC_65 H... 1223 0.0
 gi|10355660|gb|BE893865.1|BE893865 601436228F1 NIH_MGC_72 H... 1221 0.0
 gi|10098245|gb|BE710071.1|BE710071 IL3-HT0618-030800-233-G0... 1217 0.0
 gi|11283822|gb|BF337571.1|BF337571 602035323F1 NCI_CGAP_Bm... 1191 0.0
 gi|10038238|gb|BE677697.1|BE677697 7d90e10.x1 Lupski_dorsal... 1187 0.0
 gi|10098237|gb|BE710063.1|BE710063 IL3-HT0618-030800-233-C0... 1180 0.0
 gi|10725045|dbj|AV707780.1|AV707780 AV707780 ADB Homo sapie... 1178 0.0
 gi|12416699|gb|BG027664.1|BG027664 602294679F1 NIH_MGC_86 H... 1176 0.0
 gi|12101942|gb|BF796888.1|BF796888 602258274F1 NIH_MGC_85 H... 1174 0.0
 gi|1799096|gb|AA203386.1|AA203386 zx57f11.r1 Soares_fetal_l... 1170 0.0
 gi|13704200|gb|BG182513.1|BG182513 RST1389 Athersys RAGE Li... 1168 0.0
 gi|5393242|gb|AI806676.1|AI806676 wf35d04.x1 Soares_NFL_T_G... 1168 0.0
 gi|4875177|gb|AI674697.1|AI674697 wd19d06.x1 Soares_NFL_T_G... 1160 0.0
 gi|10965228|gb|BF126270.1|BF126270 601650451F1 NIH_MGC_76 H... 1154 0.0
 gi|6661159|gb|AW274129.1|AW274129 xv27b02.x1 Soares_NFL_T_G... 1148 0.0
 gi|5393220|gb|AI806654.1|AI806654 wf35b04.x1 Soares_NFL_T_G... 1144 0.0
 gi|13050584|gb|BG292110.1|BG292110 602386409F1 NIH_MGC_93 H... 1134 0.0
 gi|11968943|gb|BF683535.1|BF683535 602139737F1 NIH_MGC_46 H... 1128 0.0
 gi|12614085|gb|BG120576.1|BG120576 602346709F1 NIH_MGC_90 H... 1126 0.0
 gi|11978501|gb|BF693093.1|BF693093 602080115F1 NIH_MGC_81 H... 1126 0.0
 gi|10951089|dbj|AU126373.1|AU126373 AU126373 NT2RP1 Homo sa... 1122 0.0
 gi|10995386|dbj|AU134847.1|AU134847 AU134847 PLACE1 Homo sa... 1114 0.0
 gi|2992678|gb|AA883079.1|AA883079 am24a03.s1 Soares_NFL_T_G... 1114 0.0
 gi|10823746|dbj|AV721848.1|AV721848 AV721848 HTB Homo sapie... 1112 0.0
 gi|4893253|gb|AI683071.1|AI683071 tx01b04.x1 NCI_CGAP_Ut4 H... 1110 0.0
 gi|4610274|gb|AI601245.1|AI601245 ar88b08.x1 Barstead colon... 1098 0.0
 gi|10825009|dbj|AV722480.1|AV722480 AV722480 HTB Homo sapie... 1096 0.0
 gi|9132373|gb|BE312992.1|BE312992 601150276F1 NIH_MGC_19 Ho... 1094 0.0
 gi|13980573|gb|BG705833.1|BG705833 602669317F1 NIH_MGC_96 H... 1090 0.0
 gi|6451107|gb|AW182647.1|AW182647 xj45a04.x1 Soares_NFL_T_G... 1088 0.0
 gi|12674928|gb|BG168225.1|BG168225 602339543F1 NIH_MGC_89 H... 1082 0.0
 gi|12040732|gb|BF724821.1|BF724821 bx09b01.y1 Human Iris cD... 1082 0.0
 gi|10299269|dbj|AV697406.1|AV697406 AV697406 GKC Homo sapie... 1080 0.0
 gi|2185694|gb|AA460574.1|AA460574 zx60a12.r1 Soares_testis... 1080 0.0
 gi|8149925|gb|AW960241.1|AW960241 EST372312 MAGe resequence... 1076 0.0
 gi|2261844|gb|AA521301.1|AA521301 aa79f07.s1 NCI_CGAP_GCB1 ... 1061 0.0
 gi|12768489|gb|BG258673.1|BG258673 602379803F1 NIH_MGC_92 H... 1051 0.0
 gi|3922551|gb|AI284318.1|AI284318 qj65c07.x1 NCI_CGAP_Kid3 ... 1047 0.0
 gi|6881860|gb|AW377197.1|AW377197 IL3-CT0220-111199-028-D09... 1041 0.0
 gi|4833752|gb|AI668978.1|AI668978 wb82g01.x1 NCI_CGAP_Pr28 ... 1033 0.0
 gi|12916948|emb|AL565505.1|AL565505 AL565505 LTI_FL013_FBM... 1031 0.0
 gi|10990261|dbj|AU129907.1|AU129907 AU129907 NT2RP2 Homo sa... 1031 0.0
 gi|1350109|gb|W52530.1|W52530 zc54d04.r1 Soares_senescent_f... 1025 0.0
 gi|10203989|gb|BE782791.1|BE782791 601471972F1 NIH_MGC_67 H... 1015 0.0
 gi|9871380|dbj|AV650366.1|AV650366 AV650366 GLC Homo sapien... 1011 0.0
 gi|1961448|gb|AA309123.1|AA309123 EST179897 Colon carcinoma... 1011 0.0
 gi|14403997|gb|BG999925.1|BG999925 MR1-HN0069-040101-015-g1... 999 0.0
 gi|5036667|gb|AI719411.1|AI719411 as64c11.x1 Barstead colon... 993 0.0
 gi|10299583|dbj|AV697720.1|AV697720 AV697720 GKC Homo sapie... 991 0.0
 gi|2335271|gb|AA563632.1|AA563632 ng47f08.s1 NCI_CGAP_Co3 H... 983 0.0
 gi|11263172|gb|BF314998.1|BF314998 601899017F1 NIH_MGC_19 H... 977 0.0
 gi|2933392|gb|AA845633.1|AA845633 ai90c08.s1 Soares_parathy... 969 0.0
 gi|14172393|gb|BG824806.1|BG824806 602725101F1 NIH_MGC_15 H... 963 0.0
 gi|6038150|gb|AW082998.1|AW082998 xb72d12.x1 Soares_NFL_T_G... 959 0.0
 gi|3844111|gb|AI248714.1|AI248714 qh72c04.x1 Soares_fetal_l... 959 0.0
 gi|11012858|dbj|AU151337.1|AU151337 AU151337 NT2RP2 Homo sa... 957 0.0
 gi|9877013|dbj|AV655999.1|AV655999 AV655999 GLC Homo sapien... 957 0.0

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gi|5449606|gb|AI828935.1|AI828935 wj37h08.x1 NCI_CGAP_Lu19 ... 952 0.0
 gi|11015393|dbj|AU153872.1|AU153872 AU153872 NT2RP3 Homo sa... 948 0.0
 gi|2838179|gb|AA778848.1|AA778848 zj42a03.s1 Soares_fetal_I... 946 0.0
 gi|10200888|gb|BE779690.1|BE779690 601465210F1 NIH_MGC_67 H... 942 0.0
 gi|3742671|gb|AI191462.1|AI191462 qe32f11.s1 Soares_fetal_I... 940 0.0
 gi|3596240|gb|AI127726.1|AI127726 qc26h03.x1 Soares_pregnan... 940 0.0
 gi|4270907|gb|AI424976.1|AI424976 tg38g11.x1 Soares_NFL_T_G... 936 0.0
 gi|2704986|gb|AA701873.1|AA701873 zi56b08.s1 Soares_fetal_I... 932 0.0
 gi|4073260|gb|AI336333.1|AI336333 qt43f09.x1 Soares_fetal_I... 924 0.0
 gi|4073310|gb|AI336383.1|AI336383 qt51c08.x1 Soares_fetal_I... 916 0.0

>gi|7705421|ref|NP_057455.1| hydroxysteroid (17-beta) dehydrogenase 7; 17
 beta-hydroxysteroid dehydrogenase type VII [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

AA381145 activated T cells

AA381143 activated T cells

Sequences producing significant alignments: (bits) Value

gi|12795928|emb|AL532435.1|AL532435 AL532435 LTI_NFL001_NBC... 1871 0.0
 gi|12914735|emb|AL564384.1|AL564384 AL564384 LTI_NFL001_NBC... 1683 0.0
 gi|12385016|gb|BF982204.1|BF982204 602306244F1 NIH_MGC_88 H... 1302 0.0
 gi|12097882|gb|BF792897.1|BF792897 602253394F1 NIH_MGC_84 H... 1221 0.0
 gi|13403023|gb|BG470748.1|BG470748 602511688F1 NIH_MGC_16 H... 1168 0.0
 gi|2881531|gb|AA811920.1|AA811920 ob72e11.s1 NCI_CGAP_GCB1 ... 1051 0.0
 gi|14169203|gb|BG821616.1|BG821616 602727619F1 NIH_MGC_15 H... 1027 0.0
 gi|13721684|gb|BG199997.1|BG199997 RST19294 Athersys RAGE L... 993 0.0
 gi|10737010|gb|BF029298.1|BF029298 601765528F1 NIH_MGC_53 H... 977 0.0
 gi|12327098|gb|BF928970.1|BF928970 QV3-NT0217-071200-518-e0... 934 0.0
 gi|4334333|gb|AI472243.1|AI472243 tj86g08.x1 Soares_NSF_F8... 934 0.0
 gi|11162286|gb|BF247157.1|BF247157 601857822F1 NIH_MGC_58 H... 906 0.0
 gi|10989791|dbj|AU129437.1|AU129437 AU129437 NT2RP2 Homo sa... 890 0.0
 gi|13703900|gb|BG182213.1|BG182213 RST1077 Athersys RAGE Li... 884 0.0
 gi|10992118|dbj|AU131764.1|AU131764 AU131764 NT2RP3 Homo sa... 876 0.0
 gi|10988921|dbj|AU128567.1|AU128567 AU128567 NT2RP2 Homo sa... 868 0.0
 gi|11363939|gb|BF382636.1|BF382636 601816836F1 NIH_MGC_56 H... 848 0.0
 gi|8144565|gb|AW954882.1|AW954882 EST366952 MAGE resequence... 835 0.0
 gi|9128432|gb|BE257950.1|BE257950 601109786F1 NIH_MGC_16 Ho... 801 0.0
 gi|1844803|gb|AA224260.1|AA224260 zr15a04.r1 Stratagene NT2... 799 0.0
 gi|9128029|gb|BE257566.1|BE257566 601109643F1 NIH_MGC_16 Ho... 797 0.0
 gi|928055|gb|R83178.1|R83178 yp87e11.r1 Soares fetal liver ... 791 0.0
 gi|12270902|gb|BF880776.1|BF880776 QV3-ET0174-011200-513-f0... 765 0.0
 gi|10921244|dbj|AV763396.1|AV763396 AV763396 MDS Homo sapie... 700 0.0

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>gi|12643402;sp|Q92506;DHB8_HUMAN ESTRADIOL 17 BETA-
DEHYDROGENASE 8 (17-BETA-HSD 8) (17-BETA-HYDROXYSTEROID
DEHYDROGENASE 8) (KE6 PROTEIN) (KE-6)

EST Search :

N47726 multiple sclerosis lesion

N47727 multiple sclerosis lesion

N98941 multiple sclerosis lesion

Sequences producing significant alignments: (bits) Value

gi|10214178;gb|BE792980.1|BE792980 601585653F1 NIH_MGC_7 Ho... 1336 0.0
gi|10149821;gb|BE735829.1|BE735829 601305146F1 NIH_MGC_39 H... 1304 0.0
gi|12897211;emb|AL555459.1|AL555459 AL555459 LTI_NFL006_PL2... 1296 0.0
gi|10391209;gb|BE901734.1|BE901734 601675345F1 NIH_MGC_21 H... 1237 0.0
gi|14805093;gb|BI253554.1|BI253554 602973478F1 NIH_MGC_12 H... 1203 0.0
gi|14619885;gb|BI159884.1|BI159884 602863711F1 NIH_MGC_42 H... 1197 0.0
gi|2703586;gb|AA700623.1|AA700623 z143a04.s1 Soares_fetal_l... 1156 0.0
gi|12897209;emb|AL555458.1|AL555458 AL555458 LTI_NFL006_PL2... 1136 0.0
gi|5394035;gb|AI807469.1|AI807469 wf48b08.x1 Soares_NFL_T_G... 1120 0.0
gi|5878587;gb|AW025057.1|AW025057 wu93f03.x1 NCI_CGAP_Kid3 ... 1104 0.0
gi|11613994;gb|BF526631.1|BF526631 602070755F1 NCI_CGAP_Bm... 1102 0.0
gi|12345465;gb|BF978250.1|BF978250 602148205F1 NIH_MGC_62 H... 1084 0.0
gi|5839154;gb|AI992249.1|AI992249 ws41d10.x1 NCI_CGAP_Bm25... 1027 0.0
gi|12411526;gb|BG025183.1|BG025183 602276160F1 NIH_MGC_85 H... 995 0.0
gi|3766024;gb|AI207352.1|AI207352 qg26d10.x1 NCI_CGAP_Kid3 ... 995 0.0
gi|4268048;gb|AI422117.1|AI422117 tf40g03.x1 NCI_CGAP_Bm23... 954 0.0
gi|2568438;gb|AA643220.1|AA643220 nr96h03.s1 NCI_CGAP_Pr25 ... 948 0.0
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gi|2942259;gb|AA854721.1|AA854721 aj76h02.s1 Soares_parathy... 765 0.0
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gi|3425472;gb|AI087049.1|AI087049 oy70b11.x1 NCI_CGAP_CLL1 ... 745 0.0
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gi|3202509;gb|AI002175.1|AI002175 oq85b06.s1 NCI_CGAP_Kid6 ... 714 0.0
gi|1422483;gb|W93361.1|W93361 zd94g06.s1 Soares_fetal_heart... 700 0.0
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gi|1378970;gb|W69711.1|W69711 zd47e09.s1 Soares_fetal_heart... 551 e-
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gi|1547517;gb|AA055098.1|AA055098 zf17a01.s1 Soares_fetal_h... 517 e-
144

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gi|6138458|gb|AW134912.1|AW134912 UI-H-BI1-abr-c-10-0-UI.s1... 515 e-
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gi|13664562|gb|BG613191.1|BG613191 602640738F1 NIH_MGC_61 H... 507 e-
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140

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>gi|2558754|gb|AAC51812.1| amyloid beta-peptide binding protein [Homo sapiens]; similar 17-beta-hydroxysteroid dehydrogenase type 10

EST Search:

Sequences producing significant alignments: (bits) Value

AI 672661 spleen

AI572890 lymphoma

Sequences producing significant alignments: (bits) Value

gi 12952470 emb AL583473.1 AL583473	AL583473 LTI_NFL004_NBC...	1784	0.0
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gi 10207861 gb BE786663.1 BE786663	601475007F1 NIH_MGC_68 H...	1306	0.0
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gi 12600433 gb BG106587.1 BG106587	602290404F1 NIH_MGC_85 H...	1285	0.0

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>gi|9622124|gb|AAF89632.1|AF167438_1 androgen-regulated short-chain
dehydrogenase/reductase 1 [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
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gi 12770117 gb BG260301.1 BG260301	602371417F1 NIH_MGC_93 H...	1162 0.0
gi 13972135 gb BG701616.1 BG701616	602682503F1 NIH_MGC_95 H...	1158 0.0
gi 9323581 gb BE378216.1 BE378216	601237991F1 NIH_MGC_44 Ho...	1158 0.0
gi 14471561 gb BI064034.1 BI064034	IL3-UT0119-120401-430-G0...	1156 0.0

gi|8144363|gb|AW954680.1|AW954680 EST366750 MAGE resequence... 1150 0.0
 gi|9331236|gb|BE385871.1|BE385871 601275933F1 NIH_MGC_20 Ho... 1144 0.0
 gi|12687397|gb|BG180694.1|BG180694 602329481F1 NIH_MGC_91 H... 1142 0.0
 gi|11953928|gb|BF680033.1|BF680033 602154752F1 NIH_MGC_83 H... 1132 0.0
 gi|13458797|gb|BG497280.1|BG497280 602537844F1 NIH_MGC_59 H... 1128 0.0
 gi|9179583|gb|BE296026.1|BE296026 601175058F1 NIH_MGC_17 Ho... 1128 0.0
 gi|9770617|gb|BE541972.1|BE541972 601064273F1 NIH_MGC_10 Ho... 1126 0.0
 gi|6568025|gb|AW235636.1|AW235636 xn20g09.x1 NCI_CGAP_Kid11... 1126 0.0
 gi|12612166|gb|BG118660.1|BG118660 602348226F1 NIH_MGC_90 H... 1124 0.0
 gi|13282164|gb|BG388718.1|BG388718 602414406F1 NIH_MGC_92 H... 1108 0.0
 gi|11952959|gb|BF679064.1|BF679064 602153322F1 NIH_MGC_83 H... 1094 0.0
 gi|11954261|gb|BF680366.1|BF680366 602154150F1 NIH_MGC_83 H... 1092 0.0
 gi|13336068|gb|BG429562.1|BG429562 602501238F1 NIH_MGC_75 H... 1076 0.0
 gi|11613456|gb|BF526180.1|BF526180 602071089F1 NCI_CGAP_Brn... 1076 0.0
 gi|1544739|gb|AA053804.1|AA053804 ze25e09.s1 Soares_fetal_h... 1076 0.0
 gi|11954238|gb|BF680343.1|BF680343 602154124F1 NIH_MGC_83 H... 1070 0.0
 gi|2154395|gb|AA442517.1|AA442517 zv68a01.r1 Soares_total_f... 1068 0.0
 gi|13727617|gb|BG205930.1|BG205930 RST25365 Athersys RAGE L... 1067 0.0
 gi|11947983|gb|BF674088.1|BF674088 602137489F1 NIH_MGC_83 H... 1059 0.0
 gi|14178068|gb|BG830481.1|BG830481 602767043F1 NIH_MGC_42 H... 1057 0.0
 gi|11954070|gb|BF680175.1|BF680175 602154923F1 NIH_MGC_83 H... 1055 0.0
 gi|11947422|gb|BF673610.1|BF673610 602136021F1 NIH_MGC_83 H... 1055 0.0
 gi|9135943|gb|BE262703.1|BE262703 601146057F1 NIH_MGC_19 Ho... 1055 0.0
 gi|12523600|gb|BG057848.1|BG057848 naf13d09.x1 Soares_NPBMC... 1051 0.0
 gi|11107340|gb|BF213754.1|BF213754 601847654F1 NIH_MGC_55 H... 1051 0.0
 gi|11947265|gb|BF673370.1|BF673370 602135837F1 NIH_MGC_83 H... 1047 0.0
 gi|13714218|gb|BG192531.1|BG192531 RST11646 Athersys RAGE L... 1043 0.0
 gi|9189288|gb|BE336903.1|BE336903 bb68f05.y1 NIH_MGC_9 Homo... 1043 0.0
 gi|10348906|gb|BE890514.1|BE890514 601431585F1 NIH_MGC_72 H... 1037 0.0
 gi|12158715|gb|BF820301.1|BF820301 CM0-RT0018-181100-706-e0... 1029 0.0
 gi|2167857|gb|AA454188.1|AA454188 zx48a12.s1 Soares_testis... 1029 0.0
 gi|12062595|gb|BF735895.1|BF735895 QV1-KT0023-131100-480-b0... 1027 0.0
 gi|12062768|gb|BF736094.1|BF736094 QV1-KT0023-131100-475-h0... 1025 0.0
 gi|5080879|gb|AF063505.1|AF063505 AF063505 Homo sapiens lib... 1023 0.0
 gi|6359496|gb|AI110631.1|AI110631 HA0057 Human fetal liver ... 1023 0.0
 gi|14471624|gb|BI064110.1|BI064110 IL3-UT0119-170401-458-F0... 1021 0.0
 gi|10587293|gb|BE973957.1|BE973957 601680275F1 NIH_MGC_83 H... 1021 0.0
 gi|14565160|gb|BI114259.1|BI114259 602862449F1 NIH_MGC_17 H... 1017 0.0
 gi|11947398|gb|BF673586.1|BF673586 602136287F1 NIH_MGC_83 H... 1017 0.0
 gi|11948042|gb|BF674147.1|BF674147 602137658F1 NIH_MGC_83 H... 1009 0.0
 gi|11948071|gb|BF674176.1|BF674176 602137695F1 NIH_MGC_83 H... 1007 0.0
 gi|12062604|gb|BF735904.1|BF735904 QV1-KT0023-131100-480-h0... 1005 0.0
 gi|2703194|gb|AA700231.1|AA700231 zj52f03.s1 Soares_fetal_l... 1003 0.0
 gi|5663000|gb|AI927036.1|AI927036 wo87b07.x1 NCI_CGAP_Kid11... 997 0.0
 gi|11949270|gb|BF675375.1|BF675375 602138336F1 NIH_MGC_83 H... 993 0.0
 gi|11107263|gb|BF213677.1|BF213677 601847527F1 NIH_MGC_55 H... 993 0.0
 gi|5839186|gb|AI992281.1|AI992281 ws41g11.x1 NCI_CGAP_Brn25... 991 0.0
 gi|4897519|gb|AI686225.1|AI686225 tu40f05.x1 NCI_CGAP_Pr28 ... 991 0.0
 gi|5364540|gb|AI799068.1|AI799068 we98b05.x1 Soares_NFL_T_G... 989 0.0
 gi|14471659|gb|BI064132.1|BI064132 IL3-UT0119-170401-459-H0... 983 0.0
 gi|5864305|gb|AW015548.1|AW015548 UI-H-BI0p-aaue-01-0-UI.s... 983 0.0
 gi|11943604|gb|BF669709.1|BF669709 602118259F1 NIH_MGC_56 H... 981 0.0
 gi|12062547|gb|BF735964.1|BF735964 QV1-KT0023-111100-479-b0... 979 0.0
 gi|2167856|gb|AA454187.1|AA454187 zx48a12.r1 Soares_testis... 977 0.0
 gi|9969904|gb|BE645593.1|BE645593 7e72g02.x1 NCI_CGAP_Pr28 ... 975 0.0
 gi|7280592|gb|AW593334.1|AW593334 hg13d03.x1 Soares_NFL_T_G... 975 0.0
 gi|11954107|gb|BF680212.1|BF680212 602154965F1 NIH_MGC_83 H... 971 0.0

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gi|13335825|gb|BG429319.1|BG429319 602494022F1 NIH_MGC_75 H... 967 0.0
 gi|10578047|gb|BE967342.1|BE967342 601649342F1 NIH_MGC_73 H... 967 0.0
 gi|1686108|gb|AA126515.1|AA126515 zn85c12.s1 Stratagene lun... 965 0.0
 gi|5913719|gb|AW051449.1|AW051449 wy95h11.x1 NCI_CGAP_Brn23... 961 0.0
 gi|9156141|gb|BE281127.1|BE281127 601157756F1 NIH_MGC_21 Ho... 959 0.0
 gi|2584691|gb|AA653039.1|AA653039 ns71e08.s1 NCI_CGAP_Pr2 H... 959 0.0
 gi|11449515|gb|BF437182.1|BF437182 7p67e11.x1 NCI_CGAP_Pr28... 957 0.0
 gi|7632890|gb|AW732557.1|AW732557 bb08c01.y1 NIH_MGC_14 Hom... 955 0.0
 gi|11107822|gb|BF214236.1|BF214236 601848414F1 NIH_MGC_55 H... 946 0.0
 gi|5632015|gb|AI912160.1|AI912160 wd71a09.x1 NCI_CGAP_Lu24 ... 938 0.0
 gi|9156661|gb|BE281638.1|BE281638 601155146F1 NIH_MGC_21 Ho... 934 0.0
 gi|5886621|gb|AW027865.1|AW027865 ws62b11.x1 NCI_CGAP_Brn23... 932 0.0
 gi|9186545|gb|BE302797.1|BE302797 ba69a06.y1 NIH_MGC_20 Hom... 928 0.0
 gi|8364368|gb|BE047315.1|BE047315 hq78g07.x1 NCI_CGAP_Ov41 ... 928 0.0
 gi|6361052|gb|AI174674.1|AI174674 HA2365 Human fetal liver ... 928 0.0
 gi|10367360|gb|BE855387.1|BE855387 7g13b06.x1 NCI_CGAP_Brn2... 922 0.0
 gi|13970318|gb|BG700707.1|BG700707 602682353F1 NIH_MGC_95 H... 916 0.0
 gi|1507636|gb|AA035790.1|AA035790 ze25e09.r1 Soares_fetal_h... 916 0.0
 gi|1679019|gb|AA121396.1|AA121396 zn77h06.s1 Stratagene NT2... 914 0.0
 gi|5768230|gb|AI971404.1|AI971404 wr04e08.x1 NCI_CGAP_GC6 H... 912 0.0
 gi|11681877|gb|BF589553.1|BF589553 naa05g08.x1 NCI_CGAP_Pr2... 910 0.0
 gi|10887537|gb|BF105011.1|BF105011 601822785F1 NIH_MGC_75 H... 908 0.0
 gi|5767638|gb|AI970812.1|AI970812 wr20b02.x1 NCI_CGAP_Pr28 ... 906 0.0
 gi|11950417|gb|BF676522.1|BF676522 602084429F1 NIH_MGC_83 H... 904 0.0
 gi|11108871|gb|BF215285.1|BF215285 601846338F1 NIH_MGC_55 H... 900 0.0
 gi|1383082|gb|W72327.1|W72327 zd62b11.s1 Soares_fetal_heart... 900 0.0

>gi|7705907|ref|NP_057330.1| retinal short-chain dehydrogenase/reductase
 retSDR3 [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi|14077603|gb|BG766950.1|BG766950 602740653F1 NIH_MGC_49 H... 1437 0.0
 gi|10370049|gb|BE856729.1|BE856729 7f66h09.x1 Soares_NSF_F8... 1183 0.0
 gi|3180757|gb|AA994212.1|AA994212 ou49b10.s1 NCI_CGAP_Br2 H... 1104 0.0
 gi|12102027|gb|BF796973.1|BF796973 602258193F1 NIH_MGC_85 H... 1055 0.0
 gi|4334141|gb|AI472051.1|AI472051 tj85e10.x1 Soares_NSF_F8... 1047 0.0
 gi|5394770|gb|AI808204.1|AI808204 wf93f01.x1 Soares_NSF_F8... 1045 0.0
 gi|8156902|gb|AW967066.1|AW967066 EST379140 MAGE resequence... 1023 0.0
 gi|9706163|gb|BE503755.1|BE503755 hz51b10.x1 NCI_CGAP_Lu24 ... 1013 0.0
 gi|4971779|gb|AI694439.1|AI694439 wd83g04.x1 NCI_CGAP_Lu24 ... 1005 0.0
 gi|5110372|gb|AI742084.1|AI742084 wg38g06.x1 Soares_NSF_F8... 957 0.0
 gi|3214671|gb|AI005161.1|AI005161 ou13c05.x1 Soares_NFL_T_G... 940 0.0
 gi|1523029|gb|AA044826.1|AA044826 zk72b09.s1 Soares_pregnan... 918 0.0
 gi|3594921|gb|AI126407.1|AI126407 qc55g09.x1 Soares_placent... 902 0.0
 gi|10964840|gb|BF125800.1|BF125800 601763002F1 NIH_MGC_20 H... 894 0.0
 gi|4523233|gb|AI564776.1|AI564776 tn37b01.x1 NCI_CGAP_Brn25... 882 0.0
 gi|4189789|gb|AI379936.1|AI379936 tc53c09.x1 Soares_NhHMPu... 872 0.0
 gi|10718270|dbj|AV701940.1|AV701940 AV701940 ADB Homo sapie... 835 0.0
 gi|10941621|gb|BF112008.1|BF112008 7i37e08.x1 Soares_NSF_F8... 817 0.0
 gi|6946828|gb|AW418896.1|AW418896 ha15c03.x1 NCI_CGAP_Kid12... 817 0.0

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>gi|3372592|gb|AAC39922.1| sterol/retinol dehydrogenase [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi 9882195 dbj AV661181.1 AV661181	AV661181 GLC Homo sapien...	987	0.0
gi 9882144 dbj AV661130.1 AV661130	AV661130 GLC Homo sapien...	928	0.0
gi 10297142 dbj AV695279.1 AV695279	AV695279 GKC Homo sapie...	611	e-
172			
gi 10290555 dbj AV688692.1 AV688692	AV688692 GKC Homo sapie...	595	e-
167			
gi 9868702 dbj AV647688.1 AV647688	AV647688 GLC Homo sapien...	543	e-
152			
gi 9868612 dbj AV647598.1 AV647598	AV647598 GLC Homo sapien...	543	e-
152			
gi 9868272 dbj AV647258.1 AV647258	AV647258 GLC Homo sapien...	543	e-
152			
gi 9868493 dbj AV647479.1 AV647479	AV647479 GLC Homo sapien...	504	e-
140			

Jurkat Tcells: AA312392

gb AA381769.1 AA381769	EST94887 Activated T-cells I Homo sa...	36	9.9
gb AA381726.1 AA381726	EST94873 Activated T-cells I Homo sa...	36	9.9
gb AA381649.1 AA381649	EST94823 Activated T-cells I Homo sa...	36	9.9
gb AA381695.1 AA381695	EST94806 Activated T-cells I Homo sa...	36	9.9
gb AA381691.1 AA381691	EST94801 Activated T-cells I Homo sa...	36	9.9
gb AA381683.1 AA381683	EST94792 Activated T-cells I Homo sa...	36	9.9
gb AA381621.1 AA381621	EST94733 Activated T-cells I Homo sa...	36	9.9
gb AA381348.1 AA381348	EST94418 Activated T-cells I Homo sa...	36	9.9

>gi|5031765|ref|NP_005516.1| hydroxysteroid (11-beta) dehydrogenase 1 [Homo sapiens]

EST Search :

N59147 multiple sclerosis lesion

N75182 multiple sclerosis lesion

Sequences producing significant alignments: (bits) Value

gi 13906209 gb BG674813.1 BG674813	602620946F1 NCI_CGAP_Skn...	1685	0.0
gi 13905643 gb BG674247.1 BG674247	602620212F1 NCI_CGAP_Skn...	1635	0.0
gi 13961308 gb BG696304.1 BG696304	602659453F1 NCI_CGAP_Skn...	1614	0.0
gi 14052781 gb BG742128.1 BG742128	602634002F1 NCI_CGAP_Skn...	1564	0.0
gi 14052023 gb BG741370.1 BG741370	602631924F1 NCI_CGAP_Skn...	1562	0.0
gi 13966183 gb BG698667.1 BG698667	602703031F1 NCI_CGAP_Skn...	1469	0.0
gi 14051962 gb BG741309.1 BG741309	602634443F1 NCI_CGAP_Skn...	1437	0.0
gi 13543809 gb BG545364.1 BG545364	602572590F1 NIH_MGC_77 H...	1382	0.0

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gi|13964039|gb|BG697623.1|BG697623 602660865F1 NCI_CGAP_Skn... 1376 0.0
gi|13972710|gb|BG701903.1|BG701903 602683260F1 NIH_MGC_95 H... 1350 0.0
gi|13573357|gb|BG565704.1|BG565704 602589036F1 NIH_MGC_76 H... 1336 0.0
gi|9438885|gb|BE439403.1|BE439403 HTM1-018F1 HTM1 Homo sapi... 1255 0.0
gi|9872526|dbj|AV651512.1|AV651512 AV651512 GLC Homo sapien... 1223 0.0
gi|14053029|gb|BG742376.1|BG742376 602631760F1 NCI_CGAP_Skn... 1219 0.0
gi|11987203|gb|BF701795.1|BF701795 602129255F2 NIH_MGC_56 H... 1219 0.0
gi|13673667|gb|BG622296.1|BG622296 602646960F1 NIH_MGC_79 H... 1215 0.0
gi|13531288|gb|BG539055.1|BG539055 602568425F1 NIH_MGC_77 H... 1168 0.0
gi|10911141|dbj|AV753293.1|AV753293 AV753293 NPD Homo sapie... 1045 0.0
gi|12512467|gb|BG055093.1|BG055093 nac99e06.x1 NCI_CGAP_Pr2... 1039 0.0
gi|11984275|gb|BF698867.1|BF698867 602126436F1 NIH_MGC_56 H... 1021 0.0
gi|13670422|gb|BG619051.1|BG619051 602616588F1 NIH_MGC_79 H... 997 0.0
gi|14051178|gb|BG740525.1|BG740525 602633033F1 NCI_CGAP_Skn... 971 0.0
gi|9876959|dbj|AV655945.1|AV655945 AV655945 GLC Homo sapien... 957 0.0
gi|9872114|dbj|AV651100.1|AV651100 AV651100 GLC Homo sapien... 955 0.0
gi|9871963|dbj|AV650949.1|AV650949 AV650949 GLC Homo sapien... 955 0.0
gi|10291657|dbj|AV689794.1|AV689794 AV689794 GKC Homo sapie... 932 0.0
gi|9439140|gb|BE439658.1|BE439658 HTM1-325F HTM1 Homo sapie... 926 0.0
gi|3752813|gb|AI200207.1|AI200207 qf92a08.x1 Soares_placent... 902 0.0
gi|1679084|gb|AA121470.1|AA121470 zk91d05.r1 Soares_pregnan... 842 0.0
gi|1237760|gb|N75182.1|N75182 yz62g12.r1 Soares_multiple_sc... 827 0.0
gi|3645147|gb|AI139163.1|AI139163 qc23f09.x1 Soares_pregnan... 811 0.0

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>gi|14776198|ref|XP_043103.1| hydroxysteroid (11-beta) dehydrogenase 2
[Homo sapiens]

EST Search :

Sequences producing significant alignments: (bits) Value

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gi|12883011|emb|AL548215.1|AL548215 AL548215 LTI_NFL006_PL2... 1709 0.0
gi|12888948|emb|AL551216.1|AL551216 AL551216 LTI_NFL006_PL2... 1673 0.0
gi|12935463|emb|AL574858.1|AL574858 AL574858 LTI_NFL006_PL2... 1612 0.0
gi|12931533|emb|AL572859.1|AL572859 AL572859 LTI_NFL006_PL2... 1610 0.0
gi|14506196|gb|BI087866.1|BI087866 602852664F1 NIH_MGC_10 H... 1328 0.0
gi|12924205|emb|AL569153.1|AL569153 AL569153 LTI_FL002_PL1 ... 1201 0.0
gi|12894985|emb|AL554320.1|AL554320 AL554320 LTI_NFL006_PL2... 1197 0.0
gi|12444516|gb|BG003850.1|BG003850 MR3-GN0187-201100-010-g0... 1138 0.0
gi|5111814|gb|AI743526.1|AI743526 wf72c10.x2 Soares_NFL_T_G... 1126 0.0
gi|11767117|gb|BE963698.2|BE963698 601657032R1 NIH_MGC_67 H... 1078 0.0
gi|2280229|gb|AA535976.1|AA535976 nf95a05.s1 NCI_CGAP_Co3 H... 1017 0.0
gi|2278552|gb|AA534299.1|AA534299 nf73d11.s1 NCI_CGAP_Co3 H... 1015 0.0
gi|12446016|gb|BG004736.1|BG004736 MR3-GN0187-211100-009-f0... 1007 0.0
gi|12939828|emb|AL577064.1|AL577064 AL577064 LTI_NFL006_PL2... 981 0.0
gi|3840588|gb|AI245191.1|AI245191 qk22d10.x1 NCI_CGAP_Kid3 ... 963 0.0
gi|4111819|gb|AI360198.1|AI360198 qy84a11.x1 NCI_CGAP_Brn25... 924 0.0
gi|3057842|gb|AA917952.1|AA917952 ol68g12.s1 NCI_CGAP_Kid3 ... 918 0.0
gi|12441996|gb|BG002650.1|BG002650 MR3-GN0187-171100-003-c0... 910 0.0
gi|4329685|gb|AI476640.1|AI476640 tm23a04.x1 Soares_NFL_T_G... 890 0.0
gi|12758118|gb|BG248303.1|BG248303 602400339F1 NIH_MGC_15 H... 878 0.0
gi|1776122|gb|AA189088.1|AA189088 zq45c08.s1 Stratagene hNT... 874 0.0
gi|12393991|gb|BF987669.1|BF987669 QV0-GN0141-121000-433-a0... 866 0.0
gi|5128365|gb|AI750101.1|AI750101 at35h04.x1 Barstead colon... 866 0.0
gi|3801491|gb|AI219288.1|AI219288 qg18c11.x1 Soares_placent... 823 0.0
gi|14253306|gb|BG876216.1|BG876216 QV4-CT0361-140200-101-a0... 819 0.0
gi|13139762|gb|BG333324.1|BG333324 602431361F1 NIH_MGC_18 H... 817 0.0
gi|3679683|gb|AI151214.1|AI151214 qc73h09.x1 Soares_placent... 811 0.0
gi|3741199|gb|AI189990.1|AI189990 qd25a10.x1 Soares_placent... 803 0.0
gi|12401269|gb|BF994842.1|BF994842 QV0-GN0211-031100-471-a0... 795 0.0
gi|12162695|gb|BF822586.1|BF822586 CM2-RT0009-071200-604-a0... 793 0.0
gi|3595626|gb|AI127112.1|AI127112 qb98a09.x1 Soares_fetal_h... 793 0.0
gi|10893038|gb|BF087328.1|BF087328 QV2-HT0540-120900-356-b0... 787 0.0
gi|3307586|gb|AI050781.1|AI050781 ov12a05.x1 NCI_CGAP_Kid3 ... 787 0.0
gi|12370277|gb|BF953002.1|BF953002 QV3-NN0198-111100-373-f0... 765 0.0
gi|7956033|gb|AW860340.1|AW860340 RC0-CT0380-210300-035-g09... 757 0.0
gi|14385887|gb|BG983048.1|BG983048 IL5-CN0068-060301-381-d0... 749 0.0
gi|4568562|gb|AI582665.1|AI582665 tn16b05.x1 NCI_CGAP_Brn25... 737 0.0
gi|4567538|gb|AI581641.1|AI581641 as03f05.x1 Barstead colon... 726 0.0
gi|2694936|gb|AA693998.1|AA693998 zi48b09.s1 Soares_fetal_l... 724 0.0
gi|856647|gb|R80366.1|R80366 yi96g01.r1 Soares_placenta Nb2... 724 0.0
gi|2716774|gb|AA706856.1|AA706856 zi21c10.s1 Soares_fetal_l... 720 0.0
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>gi|4504479|ref|NP_000851.1| hydroxyprostaglandin dehydrogenase 15-(NAD)
[Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi 12874897 emb AL542647.1 AL542647	AL542647 LTI_FL002_PL1 ...	1931	0.0
gi 12925069 emb AL569585.1 AL569585	AL569585 LTI_FL002_PL1 ...	1905	0.0
gi 12873492 emb AL541940.1 AL541940	AL541940 LTI_FL002_PL1 ...	1877	0.0
gi 12875081 emb AL542740.1 AL542740	AL542740 LTI_FL002_PL1 ...	1855	0.0
gi 10932989 dbj AU117975.1 AU117975	AU117975 HEMBA1 Homo sa...	1419	0.0
gi 10995644 dbj AU135105.1 AU135105	AU135105 PLACE1 Homo sa...	1415	0.0
gi 10996543 dbj AU136004.1 AU136004	AU136004 PLACE1 Homo sa...	1409	0.0
gi 13040302 gb BG286949.1 BG286949	602382834F1 NIH_MGC_93 H...	1400	0.0
gi 11001299 dbj AU139778.1 AU139778	AU139778 PLACE1 Homo sa...	1388	0.0
gi 10997253 dbj AU136714.1 AU136714	AU136714 PLACE1 Homo sa...	1382	0.0
gi 13669926 gb BG618555.1 BG618555	602645464F2 NIH_MGC_76 H...	1364	0.0
gi 13578224 gb BG570571.1 BG570571	602591255F1 NIH_MGC_77 H...	1354	0.0
gi 10996695 dbj AU136156.1 AU136156	AU136156 PLACE1 Homo sa...	1354	0.0
gi 10995511 dbj AU134972.1 AU134972	AU134972 PLACE1 Homo sa...	1354	0.0
gi 10997831 dbj AU137292.1 AU137292	AU137292 PLACE1 Homo sa...	1352	0.0
gi 13039192 gb BG286372.1 BG286372	602383144F1 NIH_MGC_93 H...	1350	0.0
gi 13048908 gb BG291198.1 BG291198	602388639F1 NIH_MGC_93 H...	1344	0.0
gi 13546833 gb BG548168.1 BG548168	602575324F1 NIH_MGC_77 H...	1342	0.0
gi 10999798 dbj AU138277.1 AU138277	AU138277 PLACE1 Homo sa...	1340	0.0
gi 14048877 gb BG778560.1 BG778560	602668005F1 NIH_MGC_60 H...	1338	0.0
gi 13574910 gb BG567257.1 BG567257	602589738F1 NIH_MGC_76 H...	1330	0.0
gi 13715496 gb BG193809.1 BG193809	RST12945 Athersys RAGE L...	1330	0.0
gi 12924251 emb AL569176.1 AL569176	AL569176 LTI_FL002_PL1 ...	1328	0.0
gi 10998094 dbj AU137555.1 AU137555	AU137555 PLACE1 Homo sa...	1320	0.0
gi 13572596 gb BG564943.1 BG564943	602583911F1 NIH_MGC_76 H...	1310	0.0
gi 13528136 gb BG536590.1 BG536590	602566204F1 NIH_MGC_77 H...	1298	0.0
gi 13044260 gb BG288929.1 BG288929	602383878F1 NIH_MGC_93 H...	1296	0.0
gi 11000464 dbj AU138943.1 AU138943	AU138943 PLACE1 Homo sa...	1292	0.0
gi 10997016 dbj AU136477.1 AU136477	AU136477 PLACE1 Homo sa...	1289	0.0
gi 10151099 gb BE737107.1 BE737107	601304459F1 NIH_MGC_39 H...	1281	0.0
gi 11000653 dbj AU139132.1 AU139132	AU139132 PLACE1 Homo sa...	1279	0.0
gi 13039746 gb BG286666.1 BG286666	602381684F1 NIH_MGC_93 H...	1267	0.0
gi 10932798 dbj AU117801.1 AU117801	AU117801 HEMBA1 Homo sa...	1261	0.0
gi 10995272 dbj AU134733.1 AU134733	AU134733 PLACE1 Homo sa...	1253	0.0
gi 13049252 gb BG291389.1 BG291389	602387263F1 NIH_MGC_93 H...	1235	0.0
gi 13045000 gb BG289298.1 BG289298	602387415F1 NIH_MGC_93 H...	1233	0.0
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gi 13044292 gb BG288945.1 BG288945	602383896F1 NIH_MGC_93 H...	1223	0.0
gi 10997197 dbj AU136658.1 AU136658	AU136658 PLACE1 Homo sa...	1221	0.0
gi 10996351 dbj AU135812.1 AU135812	AU135812 PLACE1 Homo sa...	1219	0.0
gi 14050602 gb BG739949.1 BG739949	602630904F1 NCI_CGAP_Skn...	1213	0.0
gi 13521654 gb BG530117.1 BG530117	602558603F1 NIH_MGC_61 H...	1211	0.0
gi 13294287 gb BG400839.1 BG400839	602464062F1 NIH_MGC_75 H...	1193	0.0
gi 10996117 dbj AU135578.1 AU135578	AU135578 PLACE1 Homo sa...	1187	0.0
gi 10995111 dbj AU134572.1 AU134572	AU134572 PLACE1 Homo sa...	1187	0.0
gi 13416849 gb BG484570.1 BG484570	602505736F1 NIH_MGC_77 H...	1185	0.0
gi 13342897 gb BG436391.1 BG436391	602509051F1 NIH_MGC_79 H...	1183	0.0
gi 12934190 emb AL574206.1 AL574206	AL574206 LTI_NFL006_PL2...	1183	0.0
gi 13340956 gb BG434450.1 BG434450	602506473F1 NIH_MGC_79 H...	1156	0.0
gi 13342591 gb BG436085.1 BG436085	602508877F1 NIH_MGC_79 H...	1154	0.0

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 gi|13416352|gb|BG484073.1|BG484073 602504677F1 NIH_MGC_77 H... 1146 0.0
 gi|12938589|emb|AL576441.1|AL576441 AL576441 LTI_NFL006_PL2... 1146 0.0
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 gi|13041924|gb|BG287765.1|BG287765 602384115F1 NIH_MGC_93 H... 1134 0.0
 gi|13530725|gb|BG538492.1|BG538492 602567213F1 NIH_MGC_77 H... 1132 0.0
 gi|13545497|gb|BG546832.1|BG546832 602574013F1 NIH_MGC_77 H... 1124 0.0
 gi|13415427|gb|BG483148.1|BG483148 602503084F1 NIH_MGC_77 H... 1122 0.0
 gi|10141065|gb|BE727073.1|BE727073 601563751F1 NIH_MGC_20 H... 1120 0.0
 gi|13673902|gb|BG622531.1|BG622531 602647264F1 NIH_MGC_79 H... 1118 0.0
 gi|9325374|gb|BE380009.1|BE380009 601159319F2 NIH_MGC_53 Ho... 1118 0.0
 gi|10995892|dbj|AU135353.1|AU135353 AU135353 PLACE1 Homo sa... 1094 0.0
 gi|10142996|gb|BE729004.1|BE729004 601562266F1 NIH_MGC_20 H... 1090 0.0
 gi|13341323|gb|BG434817.1|BG434817 602507341F1 NIH_MGC_79 H... 1084 0.0
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 gi|4738059|gb|AI654080.1|AI654080 ty61e04.x1 NCI_CGAP_Kid11... 1067 0.0
 gi|11081229|gb|BF194909.1|BF194909 7o90b11.x1 NCI_CGAP_Kid1... 1061 0.0
 gi|12934146|emb|AL574184.1|AL574184 AL574184 LTI_NFL006_PL2... 1059 0.0
 gi|12769742|gb|BG259926.1|BG259926 602371888F1 NIH_MGC_93 H... 1053 0.0
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 gi|5812803|gb|AI985526.1|AI985526 ws08f05.x1 NCI_CGAP_Kid11... 1039 0.0
 gi|9810998|gb|BE567278.1|BE567278 601340881F1 NIH_MGC_53 Ho... 1027 0.0
 gi|13712893|gb|BG191206.1|BG191206 RST10293 Athersys RAGE L... 1023 0.0
 gi|11001465|dbj|AU139944.1|AU139944 AU139944 PLACE1 Homo sa... 1021 0.0
 gi|9509268|gb|BE463495.1|BE463495 hw24c08.x1 NCI_CGAP_Kid11... 1011 0.0
 gi|5100597|gb|AI738616.1|AI738616 wi11b03.x1 NCI_CGAP_Co16 ... 1005 0.0
 gi|10315127|gb|BE866442.1|BE866442 601678681F1 NIH_MGC_53 H... 997 0.0
 gi|11017265|dbj|AU155744.1|AU155744 AU155744 PLACE1 Homo sa... 991 0.0
 gi|10997723|dbj|AU137184.1|AU137184 AU137184 PLACE1 Homo sa... 987 0.0
 gi|13342905|gb|BG436399.1|BG436399 602509061F1 NIH_MGC_79 H... 965 0.0
 gi|10735967|gb|BF028255.1|BF028255 601765033F1 NIH_MGC_53 H... 957 0.0
 gi|13673548|gb|BG622177.1|BG622177 602646815F1 NIH_MGC_79 H... 954 0.0
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 gi|4334187|gb|AI472097.1|AI472097 tj80e11.x1 Soares_NSF_F8... 944 0.0
 gi|11155126|gb|BF241201.1|BF241201 601880081F1 NIH_MGC_55 H... 940 0.0
 gi|2834557|gb|AA775223.1|AA775223 ac79e08.s1 Stratagene lun... 940 0.0
 gi|13342718|gb|BG436212.1|BG436212 602508629F1 NIH_MGC_79 H... 936 0.0
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 gi|3888220|gb|AI269053.1|AI269053 qi24f07.x1 Soares_NhHMPu... 930 0.0
 gi|12041908|gb|BF725997.1|BF725997 bx22g02.y1 Human Iris cD... 926 0.0
 gi|10996590|dbj|AU136051.1|AU136051 AU136051 PLACE1 Homo sa... 920 0.0
 gi|10735132|gb|BF027420.1|BF027420 601672490F1 NIH_MGC_20 H... 920 0.0
 gi|11000958|dbj|AU139437.1|AU139437 AU139437 PLACE1 Homo sa... 916 0.0
 gi|10584213|gb|BE971156.1|BE971156 601651108F1 NIH_MGC_81 H... 914 0.0

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>gi|7705925|ref|NP_057370.1| carbonyl reductase [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 13413874 gb BG481595.1 BG481595	602528316F1 NIH_MGC_21 H...	1511 0.0
gi 14178945 gb BG831358.1 BG831358	602766220F1 NIH_MGC_42 H...	1491 0.0
gi 14177680 gb BG830093.1 BG830093	602764845F1 NIH_MGC_42 H...	1491 0.0
gi 13404430 gb BG472244.1 BG472244	602513756F1 NIH_MGC_16 H...	1443 0.0
gi 14568476 gb BI117575.1 BI117575	602866754F1 NIH_MGC_7 Ho...	1419 0.0
gi 13982131 gb BG706614.1 BG706614	602674104F1 NIH_MGC_96 H...	1380 0.0
gi 13976241 gb BG703674.1 BG703674	602686647F1 NIH_MGC_95 H...	1368 0.0
gi 10390490 gb BE901372.1 BE901372	601674675F1 NIH_MGC_21 H...	1354 0.0
gi 12343809 gb BF976594.1 BF976594	602244271F1 NIH_MGC_48 H...	1326 0.0
gi 11641972 gb BF568592.1 BF568592	602184218F1 NIH_MGC_42 H...	1326 0.0
gi 11970704 gb BF685296.1 BF685296	602141648F1 NIH_MGC_46 H...	1304 0.0
gi 11252161 gb BF305282.1 BF305282	601892747F1 NIH_MGC_17 H...	1304 0.0
gi 11098442 gb BF204856.1 BF204856	601867158F1 NIH_MGC_17 H...	1300 0.0
gi 9137251 gb BE263706.1 BE263706	601192146F1 NIH_MGC_7 Hom...	1279 0.0
gi 10404479 gb BE909167.1 BE909167	601501782F1 NIH_MGC_70 H...	1277 0.0
gi 11151599 gb BF237681.1 BF237681	601841865F1 NIH_MGC_46 H...	1275 0.0
gi 9156256 gb BE281240.1 BE281240	601155341F1 NIH_MGC_21 Ho...	1275 0.0
gi 12342418 gb BF975203.1 BF975203	602244705F1 NIH_MGC_48 H...	1269 0.0
gi 14058856 gb BG748203.1 BG748203	602705827F1 NIH_MGC_43 H...	1263 0.0
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gi 11098117 gb BF204531.1 BF204531	601868138F1 NIH_MGC_17 H...	1237 0.0
gi 9133208 gb BE313377.1 BE313377	601147921F1 NIH_MGC_19 Ho...	1237 0.0
gi 12683322 gb BG176619.1 BG176619	602313206F1 NIH_MGC_85 H...	1235 0.0
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gi 11251336 gb BF304588.1 BF304588	601887980F1 NIH_MGC_17 H...	1199 0.0
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gi 2155441 gb AA442766.1 AA442766	zv60c08.s1 Soares_testis...	1019 0.0
gi 1148734 gb N30214.1 N30214	yw83h09.s1 Soares_placenta_8t...	1017 0.0
gi 13137575 gb BG331137.1 BG331137	602431839F1 NIH_MGC_18 H...	1013 0.0

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gi|9866354|dbj|AV645340.1|AV645340 AV645340 GLA Homo sapien... 1011 0.0
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 gi|2731990|gb|AA720021.1|AA720021 zh22e05.s1 Soares_pineal... 842 0.0
 gi|7316134|gb|AW615416.1|AW615416 ba09d08.x1 NIH_MGC_7 Homo... 833 0.0
 gi|9875231|dbj|AV654217.1|AV654217 AV654217 GLC Homo sapien... 831 0.0
 gi|4598919|gb|AI589871.1|AI589871 tm81d01.x1 NCI_CGAP_Bm25... 823 0.0
 gi|4489893|gb|AI557530.1|AI557530 pt2.1-06.D05b.r tumor2 Ho... 823 0.0
 gi|9874547|dbj|AV653533.1|AV653533 AV653533 GLC Homo sapien... 803 0.0
 gi|3988144|gb|AI304455.1|AI304455 qo54a10.x1 NCI_CGAP_Co8 H... 801 0.0

>gi|4503817|ref|NP_002026.1| follicular lymphoma variant translocation 1
 [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

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 gi|10994408|dbj|AU133869.1|AU133869 AU133869 OVARC1 Homo sa... 1316 0.0
 gi|14063903|gb|BG753250.1|BG753250 602731650F1 NIH_MGC_43 H... 1281 0.0

gi|12383693|gb|BF980881.1|BF980881 602304095F1 NIH_MGC_88 H... 1275 0.0
gi|13049086|gb|BG291280.1|BG291280 602388439F1 NIH_MGC_93 H... 1265 0.0
gi|13289457|gb|BG396009.1|BG396009 602458738F1 NIH_MGC_16 H... 1223 0.0
gi|13999988|gb|BG720801.1|BG720801 602692025F1 NIH_MGC_97 H... 1203 0.0
gi|10293319|dbj|AV691456.1|AV691456 AV691456 GKC Homo sapie... 1130 0.0
gi|10936667|dbj|AU121432.1|AU121432 AU121432 MAMMA1 Homo sa... 1126 0.0
gi|14511044|gb|BI092714.1|BI092714 602858508F1 NIH_MGC_10 H... 1090 0.0
gi|13526132|gb|BG534590.1|BG534590 602553441F1 NIH_MGC_77 H... 1090 0.0
gi|10995473|dbj|AU134934.1|AU134934 AU134934 PLACE1 Homo sa... 1045 0.0
gi|8278290|gb|BE018271.1|BE018271 bb77h08.y1 NIH_MGC_12 Hom... 1009 0.0
gi|9347181|gb|BE410731.1|BE410731 601301615F1 NIH_MGC_21 Ho... 1001 0.0
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>gi|4503891|ref|NP_000394.1| UDP-galactose-4-epimerase; UDP galactose-4-epimerase; galactowaldenase [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

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gi|12935014|emb|AL574629.1|AL574629 AL574629 LTI_NFL006_PL2... 1643 0.0
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>gi|7705791|ref|NP_057110.1| CGI-82 protein [Homo sapiens]
Prostate short-chain dehydrogenase reductase 1

EST Search:

Organ: colon
Tissue type: adenocarcinoma cell line

Organ: skin

Organ: brain
Tissue type: hippocampus

Organ: skin
Tissue type: melanotic melanoma

Organ: ovary
Tissue type: adenocarcinoma cell line

Sequences producing significant alignments:	(bits)	Value
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 gi|13458797|gb|BG497280.1|BG497280 602537844F1 NIH_MGC_59 H... 1128 0.0
 gi|9179583|gb|BE296026.1|BE296026 601175058F1 NIH_MGC_17 Ho... 1128 0.0
 gi|9770617|gb|BE541972.1|BE541972 601064273F1 NIH_MGC_10 Ho... 1126 0.0
 gi|12612166|gb|BG118660.1|BG118660 602348226F1 NIH_MGC_90 H... 1108 0.0
 gi|6568025|gb|AW235636.1|AW235636 xn20g09.x1 NCI_CGAP_Kid11... 1102 0.0
 gi|2154395|gb|AA442517.1|AA442517 zv68a01.r1 Soares_total_f... 1098 0.0
 gi|11952959|gb|BF679064.1|BF679064 602153322F1 NIH_MGC_83 H... 1094 0.0
 gi|13282164|gb|BG388718.1|BG388718 602414406F1 NIH_MGC_92 H... 1092 0.0
 gi|11954261|gb|BF680366.1|BF680366 602154150F1 NIH_MGC_83 H... 1092 0.0
 gi|13336068|gb|BG429562.1|BG429562 602501238F1 NIH_MGC_75 H... 1076 0.0
 gi|11613456|gb|BF526180.1|BF526180 602071089F1 NCI_CGAP_Bm... 1076 0.0
 gi|11954238|gb|BF680343.1|BF680343 602154124F1 NIH_MGC_83 H... 1070 0.0
 gi|13727617|gb|BG205930.1|BG205930 RST25365 Athersys RAGE L... 1061 0.0
 gi|11947983|gb|BF674088.1|BF674088 602137489F1 NIH_MGC_83 H... 1059 0.0
 gi|14178068|gb|BG830481.1|BG830481 602767043F1 NIH_MGC_42 H... 1057 0.0
 gi|11954070|gb|BF680175.1|BF680175 602154923F1 NIH_MGC_83 H... 1055 0.0
 gi|9135943|gb|BE262703.1|BE262703 601146057F1 NIH_MGC_19 Ho... 1055 0.0
 gi|1544739|gb|AA053804.1|AA053804 ze25e09.s1 Soares_fetal_h... 1055 0.0
 gi|12523600|gb|BG057848.1|BG057848 naf13d09.x1 Soares_NPBMC... 1051 0.0
 gi|11107340|gb|BF213754.1|BF213754 601847654F1 NIH_MGC_55 H... 1051 0.0
 gi|11947265|gb|BF673370.1|BF673370 602135837F1 NIH_MGC_83 H... 1047 0.0
 gi|9189288|gb|BE336903.1|BE336903 bb68f05.y1 NIH_MGC_9 Homo... 1043 0.0
 gi|11947422|gb|BF673610.1|BF673610 602136021F1 NIH_MGC_83 H... 1039 0.0
 gi|10348906|gb|BE890514.1|BE890514 601431585F1 NIH_MGC_72 H... 1037 0.0
 gi|13714218|gb|BG192531.1|BG192531 RST11646 Athersys RAGE L... 1027 0.0
 gi|2167857|gb|AA454188.1|AA454188 zx48a12.s1 Soares_testis... 1027 0.0
 gi|10587293|gb|BE973957.1|BE973957 601680275F1 NIH_MGC_83 H... 1021 0.0
 gi|14565160|gb|BI114259.1|BI114259 602862449F1 NIH_MGC_17 H... 1017 0.0
 gi|12062768|gb|BF736094.1|BF736094 QV1-KT0023-131100-475-h0... 1017 0.0
 gi|11947398|gb|BF673586.1|BF673586 602136287F1 NIH_MGC_83 H... 1017 0.0
 gi|12158715|gb|BF820301.1|BF820301 CM0-RT0018-181100-706-e0... 1013 0.0
 gi|11948042|gb|BF674147.1|BF674147 602137658F1 NIH_MGC_83 H... 1009 0.0
 gi|11948071|gb|BF674176.1|BF674176 602137695F1 NIH_MGC_83 H... 1007 0.0
 gi|14471624|gb|BI064110.1|BI064110 IL3-UT0119-170401-458-F0... 1005 0.0
 gi|5080879|gb|AF063505.1|AF063505 AF063505 Homo sapiens lib... 1005 0.0
 gi|6359496|gb|AI110631.1|AI110631 HA0057 Human fetal liver ... 1005 0.0
 gi|12062595|gb|BF735895.1|BF735895 QV1-KT0023-131100-480-b0... 1003 0.0
 gi|2703194|gb|AA700231.1|AA700231 zj52f03.s1 Soares_fetal_l... 995 0.0

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gi|11949270|gb|BF675375.1|BF675375 602138336F1 NIH_MGC_83 H... 993 0.0
 gi|11107263|gb|BF213677.1|BF213677 601847527F1 NIH_MGC_55 H... 993 0.0
 gi|2167856|gb|AA454187.1|AA454187 zx48a12.r1 Soares_testis... 991 0.0
 gi|12062604|gb|BF735904.1|BF735904 QV1-KT0023-131100-480-h0... 989 0.0
 gi|5839186|gb|AI992281.1|AI992281 ws41g11.x1 NCI_CGAP_Bm25... 989 0.0
 gi|5364540|gb|AI799068.1|AI799068 we98b05.x1 Soares_NFL_T_G... 987 0.0
 gi|11943604|gb|BF669709.1|BF669709 602118259F1 NIH_MGC_56 H... 981 0.0
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>gi|7706523|ref|NP_057457.1| FOR II; WW domain-containing protein WWOX;
 fragile site FRA16D oxidoreductase; putative oxidoreductase [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi|12890387|emb|AL551953.1|AL551953 AL551953 LTI_NFL006_PL2... 1786 0.0
 gi|12903293|emb|AL558608.1|AL558608 AL558608 LTI_NFL008_TC2... 1784 0.0
 gi|12788142|emb|AL524649.1|AL524649 AL524649 LTI_NFL003_NBC... 1739 0.0
 gi|12924548|emb|AL569324.1|AL569324 AL569324 LTI_FL002_PL1 ... 1522 0.0
 gi|14044591|gb|BG774292.1|BG774292 602662318F1 NIH_MGC_21 H... 1507 0.0
 gi|13980599|gb|BG705846.1|BG705846 602669332F1 NIH_MGC_96 H... 1455 0.0
 gi|14082760|gb|BG772107.1|BG772107 602721554F1 NIH_MGC_97 H... 1398 0.0
 gi|11643090|gb|BF569710.1|BF569710 602186235F1 NIH_MGC_45 H... 1338 0.0
 gi|5849973|gb|AW002967.1|AW002967 wr03h08.x1 NCI_CGAP_GC6 H... 1328 0.0
 gi|5886535|gb|AW027779.1|AW027779 ww24d06.x1 NCI_CGAP_Kid11... 1326 0.0
 gi|10316595|gb|BE867819.1|BE867819 601443785F1 NIH_MGC_65 H... 1320 0.0
 gi|10147851|gb|BE733756.1|BE733756 601568287F1 NIH_MGC_21 H... 1314 0.0
 gi|13735635|gb|BG213932.1|BG213932 RST33572 Athersys RAGE L... 1308 0.0
 gi|12910724|emb|AL562371.1|AL562371 AL562371 LTI_NFL003_NBC... 1302 0.0
 gi|5368521|gb|AI803049.1|AI803049 tj60g08.x1 Soares_NSF_F8... 1296 0.0
 gi|12766396|gb|BG256580.1|BG256580 602370237F1 NIH_MGC_92 H... 1289 0.0
 gi|12874081|emb|AL542236.1|AL542236 AL542236 LTI_FL002_PL1 ... 1287 0.0
 gi|13746217|gb|BG220196.1|BG220196 RST39968 Athersys RAGE L... 1265 0.0
 gi|6473914|gb|AW194946.1|AW194946 xn32e04.x1 NCI_CGAP_Kid11... 1235 0.0
 gi|9898118|gb|BE616519.1|BE616519 601281151F1 NIH_MGC_39 Ho... 1223 0.0
 gi|7280541|gb|AW593283.1|AW593283 hg12c01.x1 Soares_NFL_T_G... 1181 0.0
 gi|13414425|gb|BG482146.1|BG482146 602528052F1 NIH_MGC_21 H... 1176 0.0
 gi|14566906|gb|BI116005.1|BI116005 602866590F1 NIH_MGC_7 Ho... 1174 0.0
 gi|11295586|gb|BF347991.1|BF347991 602023121F1 NCI_CGAP_Bm... 1172 0.0
 gi|6451381|gb|AW182921.1|AW182921 xj65b02.x1 Soares_NFL_T_G... 1170 0.0
 gi|10148597|gb|BE734605.1|BE734605 601570003F1 NIH_MGC_21 H... 1136 0.0
 gi|9139887|gb|BE266312.1|BE266312 601191934F1 NIH_MGC_7 Hom... 1132 0.0
 gi|5810913|gb|AI983694.1|AI983694 wz34a04.x1 NCI_CGAP_Bm53... 1116 0.0
 gi|3153960|gb|AA978351.1|AA978351 oq40b04.s1 NCI_CGAP_Kid5 ... 1082 0.0
 gi|13137803|gb|BG331365.1|BG331365 602432107F1 NIH_MGC_18 H... 1080 0.0
 gi|11683578|gb|BF591254.1|BF591254 7h44b11.x1 NCI_CGAP_Co16... 1033 0.0
 gi|14566532|gb|BI115631.1|BI115631 602865966F1 NIH_MGC_7 Ho... 1023 0.0
 gi|14568452|gb|BI117551.1|BI117551 602866727F1 NIH_MGC_7 Ho... 1015 0.0
 gi|3802061|gb|AI219858.1|AI219858 qg88f04.x1 Soares_NFL_T_G... 989 0.0
 gi|4762296|gb|AI658726.1|AI658726 tu22h04.x1 NCI_CGAP_Pr28 ... 967 0.0
 gi|13714360|gb|BG192673.1|BG192673 RST11790 Athersys RAGE L... 942 0.0
 gi|13748701|gb|BG460195.1|BG460195 RST42664 Athersys RAGE L... 934 0.0
 gi|4834104|gb|AI669330.1|AI669330 wb85d11.x1 NCI_CGAP_Pr28 ... 932 0.0
 gi|9945265|gb|AW874692.1|AW874692 kdef10 Soares_NFL_T_GBC_S... 918 0.0

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gi|8364318|gb|BE047265.1|BE047265 hq77g07.x1 NCI_CGAP_Ov41 ... 912 0.0
 gi|7540649|gb|AW675414.1|AW675414 ba49a12.x1 NIH_MGC_10 Hom... 906 0.0
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 gi|6946883|gb|AW418951.1|AW418951 ha24d04.x1 NCI_CGAP_Kid12... 874 0.0
 gi|11687028|gb|BF594704.1|BF594704 7o54c01.x1 NCI_CGAP_Kid1... 870 0.0
 gi|5812079|gb|AI984802.1|AI984802 wr85e01.x1 NCI_CGAP_Kid11... 862 0.0
 gi|5707011|gb|AI942355.1|AI942355 wo80b08.x1 NCI_CGAP_Kid11... 827 0.0
 gi|9512753|gb|BE466978.1|BE466978 hz59h08.x1 NCI_CGAP_Lu24 ... 815 0.0
 gi|9260409|gb|BE348556.1|BE348556 ht71g08.x1 NCI_CGAP_Lu24 ... 815 0.0
 gi|4985674|gb|AI697774.1|AI697774 we17b12.x1 NCI_CGAP_Lu24 ... 815 0.0
 gi|10035137|gb|BE674596.1|BE674596 7e09c12.x1 NCI_CGAP_Lu24... 813 0.0
 gi|3277850|gb|AI038656.1|AI038656 ox39e11.s1 Soares_total_f... 809 0.0

>gi|4502599|ref|NP_001748.1| carbonyl reductase 1; carbonyl reductase
 (NADPH); carbonyl reductase (NADPH) 1 [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 12787486 emb AL523993.1 AL523993 AL523993 LTI_NFL003_NBC...	1598	0.0
gi 13911420 gb BG680023.1 BG680023 602626762F1 NCI_CGAP_Skn...	1522	0.0
gi 12932323 emb AL573258.1 AL573258 AL573258 LTI_NFL006_PL2...	1515	0.0
gi 12910574 emb AL562295.1 AL562295 AL562295 LTI_NFL003_NBC...	1513	0.0
gi 12878532 emb AL545910.1 AL545910 AL545910 LTI_NFL006_PL2...	1505	0.0
gi 14051000 gb BG740347.1 BG740347 602634102F1 NCI_CGAP_Skn...	1485	0.0
gi 13995976 gb BG716789.1 BG716789 602678195F1 NIH_MGC_96 H...	1483	0.0
gi 13913215 gb BG681818.1 BG681818 602629747F1 NCI_CGAP_Skn...	1473	0.0
gi 13409549 gb BG477270.1 BG477270 602523416F1 NIH_MGC_20 H...	1457	0.0
gi 14061754 gb BG751101.1 BG751101 602729893F1 NIH_MGC_43 H...	1445	0.0
gi 14567986 gb BI117085.1 BI117085 602867878F1 NIH_MGC_7 Ho...	1427	0.0
gi 13976186 gb BG703646.1 BG703646 602686612F1 NIH_MGC_95 H...	1421	0.0
gi 12884266 emb AL548852.1 AL548852 AL548852 LTI_NFL006_PL2...	1411	0.0
gi 10157335 gb BE743343.1 BE743343 601573262F1 NIH_MGC_9 Ho...	1388	0.0
gi 12928754 emb AL571448.1 AL571448 AL571448 LTI_NFL006_PL2...	1382	0.0
gi 13986026 gb BG708561.1 BG708561 602670460F1 NIH_MGC_96 H...	1378	0.0
gi 12873034 emb AL541708.1 AL541708 AL541708 LTI_FL002_PL1 ...	1366	0.0
gi 12343309 gb BF976094.1 BF976094 602244927F1 NIH_MGC_48 H...	1358	0.0
gi 10356604 gb BE894338.1 BE894338 601432922F1 NIH_MGC_72 H...	1346	0.0
gi 12097845 gb BF792860.1 BF792860 602253342F1 NIH_MGC_84 H...	1338	0.0
gi 12422069 gb BG031614.1 BG031614 602299760F1 NIH_MGC_87 H...	1336	0.0
gi 10205944 gb BE784746.1 BE784746 601473657F1 NIH_MGC_68 H...	1332	0.0
gi 13337465 gb BG430959.1 BG430959 602500260F1 NIH_MGC_75 H...	1330	0.0
gi 12336923 gb BF969708.1 BF969708 602272106F1 NIH_MGC_84 H...	1328	0.0
gi 11100906 gb BF207320.1 BF207320 601870527F1 NIH_MGC_19 H...	1320	0.0
gi 10354151 gb BE893116.1 BE893116 601437011F1 NIH_MGC_72 H...	1320	0.0
gi 5364351 gb AI798879.1 AI798879 we93g10.x1 Soares_NFL_T_G...	1292	0.0
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gi 9151374 gb BE276411.1 BE276411 601144086F1 NIH_MGC_20 Ho...	1277	0.0
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gi 13040559 gb BG287078.1 BG287078 602382377F1 NIH_MGC_93 H...	1269	0.0
gi 12512254 gb BG054983.1 BG054983 nac93d10.x1 NCI_CGAP_Brn...	1267	0.0
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gi 4109064 gb AI357443.1 AI357443 qy13e11.x1 NCI_CGAP_Brn23...	1259	0.0
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gi|13414667|gb|BG482388.1|BG482388 602526551F1 NIH_MGC_21 H... 1227 0.0
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gi|11444579|gb|BF432430.1|BF432430 nac54h10.x1 NCI_CGAP_Brn... 1213 0.0
gi|12676791|gb|BG170088.1|BG170088 602321554F1 NIH_MGC_89 H... 1183 0.0
gi|12873032|emb|AL541707.1|AL541707 AL541707 LTI_FL002_PL1 ... 1172 0.0
gi|5920889|gb|AW055186.1|AW055186 wz02a08.x1 NCI_CGAP_Brn23... 1164 0.0
gi|10733479|gb|BF025767.1|BF025767 601670465F1 NIH_MGC_20 H... 1150 0.0
gi|5111360|gb|AI743072.1|AI743072 wg85h01.x1 Soares_NSF_F8... 1132 0.0
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gi|9333205|gb|BE387840.1|BE387840 601282454F1 NIH_MGC_44 Ho... 1110 0.0
gi|12793559|emb|AL530066.1|AL530066 AL530066 LTI_NFL001_NBC... 1102 0.0
gi|9331116|gb|BE385751.1|BE385751 601276394F1 NIH_MGC_20 Ho... 1092 0.0
gi|9334511|gb|BE389146.1|BE389146 601285937F1 NIH_MGC_44 Ho... 1088 0.0
gi|9331225|gb|BE385860.1|BE385860 601275921F1 NIH_MGC_20 Ho... 1088 0.0
gi|6047445|gb|AW090101.1|AW090101 xc91b04.x1 NCI_CGAP_Brn35... 1084 0.0
gi|4618950|gb|AI609783.1|AI609783 tf83c08.x1 NCI_CGAP_Brn23... 1084 0.0
gi|11546273|gb|BF475446.1|BF475446 nac44h11.x1 Lupski_sciat... 1082 0.0
gi|13578051|gb|BG570398.1|BG570398 602590838F1 NIH_MGC_77 H... 1078 0.0
gi|5813280|gb|AI986003.1|AI986003 wu43a07.x1 Soares_Dieckgr... 1078 0.0
gi|2436789|gb|AA602855.1|AA602855 np20d07.s1 NCI_CGAP_Br3 H... 1076 0.0
gi|5447543|gb|AI826872.1|AI826872 wk75e01.x1 NCI_CGAP_Pan1 ... 1061 0.0
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gi|13970816|gb|BG700956.1|BG700956 602682126F1 NIH_MGC_95 H... 1033 0.0
gi|5452311|gb|AI831640.1|AI831640 wj50b09.x1 NCI_CGAP_Lu19 ... 1029 0.0
gi|3254892|gb|AI033939.1|AI033939 ox09e05.x1 Soares_fetal_I... 1027 0.0
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gi|13525487|gb|BG533947.1|BG533947 602553048F1 NIH_MGC_77 H... 1005 0.0
gi|1157922|gb|N36780.1|N36780 yy34e02.s1 Soares_melanocyte ... 1005 0.0
gi|7318453|gb|AW613267.1|AW613267 hh69b02.x1 NCI_CGAP_GU1 H... 997 0.0
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gi|13407132|gb|BG474855.1|BG474855 602490904F1 NIH_MGC_20 H... 987 0.0
gi|10209552|gb|BE788354.1|BE788354 601480184F1 NIH_MGC_68 H... 981 0.0
gi|9133572|gb|BE313540.1|BE313540 601147169F1 NIH_MGC_19 Ho... 975 0.0
gi|3843568|gb|AI248160.1|AI248160 qh64e12.x1 Soares_fetal_I... 965 0.0
gi|1187855|gb|N46689.1|N46689 yy50e05.r1 Soares_multiple_sc... 955 0.0

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>gi|4502601|ref|NP_001227.1| carbonyl reductase 3; carbonyl reductase (NADPH) 3 [Homo sapiens]

EST Search:

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gi 9344743 gb BE408293.1 BE408293	601302679F1 NIH_MGC_21 Ho...	1108 0.0
gi 14502813 gb BI084483.1 BI084483	602869227T1 NIH_MGC_102 ...	1086 0.0
gi 12672477 gb BG165774.1 BG165774	602344434F1 NIH_MGC_89 H...	1086 0.0
gi 13992978 gb BG714047.1 BG714047	602674460F1 NIH_MGC_96 H...	1043 0.0
gi 14075958 gb BG765305.1 BG765305	602738744F1 NIH_MGC_49 H...	1023 0.0
gi 10141391 gb BE727298.1 BE727298	601560989F1 NIH_MGC_20 H...	1011 0.0
gi 10228958 gb BE775303.1 BE775303	QV0-UM0091-260500-245-f1...	1009 0.0
gi 5451368 gb AI830785.1 AI830785	wj41e04.x1 NCI_CGAP_Lu19 ...	926 0.0
gi 13732235 gb BG210468.1 BG210468	RST30093 Athersys RAGE L...	906 0.0
gi 4175510 gb AI375520.1 AI375520	tc23b01.x1 Soares_total f...	906 0.0
gi 4736532 gb AI652553.1 AI652553	wb61e09.x1 NCI_CGAP_GC6 H...	856 0.0
gi 6991764 gb AW450998.1 AW450998	UI-H-BI3-ala-c-09-0-UI.s1...	839 0.0
gi 7253791 gb AW578742.1 AW578742	RC1-CT0279-070100-021-h06...	825 0.0
gi 4089551 gb AI352345.1 AI352345	qt19h03.x1 NCI_CGAP_GC4 H...	819 0.0
gi 6886298 gb AW381639.1 AW381639	QV0-HT0309-071299-068-g01...	805 0.0

>gi|5031737|ref|NP_005785.1| short-chain alcohol dehydrogenase family member [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
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gi 10141769 gb BE727777.1 BE727777	601564116F1 NIH_MGC_20 H...	1431 0.0
gi 13410948 gb BG478669.1 BG478669	602525561F1 NIH_MGC_20 H...	1411 0.0
gi 14802215 gb BI252096.1 BI252096	602952761F1 NIH_MGC_100 ...	1388 0.0
gi 14802992 gb BI252487.1 BI252487	602952951F1 NIH_MGC_100 ...	1356 0.0
gi 10360386 gb BE896211.1 BE896211	601438923F1 NIH_MGC_72 H...	1344 0.0
gi 13408303 gb BG476024.1 BG476024	602521168F1 NIH_MGC_20 H...	1312 0.0
gi 13047921 gb BG290697.1 BG290697	602388991F1 NIH_MGC_93 H...	1300 0.0
gi 10964687 gb BF125647.1 BF125647	601763219F1 NIH_MGC_20 H...	1296 0.0
gi 14801948 gb BI251960.1 BI251960	602952582F1 NIH_MGC_100 ...	1292 0.0
gi 13048916 gb BG291202.1 BG291202	602388644F1 NIH_MGC_93 H...	1271 0.0
gi 14802560 gb BI252269.1 BI252269	602953178F1 NIH_MGC_100 ...	1263 0.0
gi 13407753 gb BG475474.1 BG475474	602491469F1 NIH_MGC_20 H...	1261 0.0
gi 9331795 gb BE386430.1 BE386430	601273627F1 NIH_MGC_20 Ho...	1255 0.0
gi 10318914 gb BE870138.1 BE870138	601449851F1 NIH_MGC_65 H...	1251 0.0
gi 11001027 dbj AU139506.1 AU139506	AU139506 PLACE1 Homo sa...	1249 0.0
gi 13297151 gb BG403703.1 BG403703	602419531F1 NIH_MGC_93 H...	1247 0.0
gi 13050383 gb BG291998.1 BG291998	602388569F1 NIH_MGC_93 H...	1213 0.0
gi 14802908 gb BI252445.1 BI252445	602952901F1 NIH_MGC_100 ...	1209 0.0
gi 13038500 gb BG285990.1 BG285990	602381170F1 NIH_MGC_93 H...	1185 0.0
gi 14803672 gb BI252829.1 BI252829	602953214T1 NIH_MGC_100 ...	1181 0.0
gi 10144041 gb BE730049.1 BE730049	601562688F1 NIH_MGC_20 H...	1168 0.0

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gi|14802770|gb|BI252376.1|BI252376 602953214F1 NIH_MGC_100 ... 1152 0.0
 gi|10733962|gb|BF026250.1|BF026250 601672857F1 NIH_MGC_20 H... 1148 0.0
 gi|13409965|gb|BG477686.1|BG477686 602522370F1 NIH_MGC_20 H... 1124 0.0
 gi|14803944|gb|BI252967.1|BI252967 602953015T1 NIH_MGC_100 ... 1118 0.0
 gi|9150493|gb|BE275537.1|BE275537 601121206F1 NIH_MGC_20 Ho... 1098 0.0
 gi|14804186|gb|BI253093.1|BI253093 602953178T1 NIH_MGC_100 ... 1074 0.0
 gi|14802614|gb|BI252296.1|BI252296 602953015F1 NIH_MGC_100 ... 1037 0.0
 gi|10144259|gb|BE730267.1|BE730267 601563674F1 NIH_MGC_20 H... 1027 0.0
 gi|7376376|gb|AW629586.1|AW629586 hh67c01.y1 NCI_CGAP_GU1 H... 985 0.0
 gi|9150554|gb|BE275597.1|BE275597 601121106F1 NIH_MGC_20 Ho... 954 0.0
 gi|2825544|gb|AA774246.1|AA774246 af66a05.r1 Soares_NhHMPu... 946 0.0
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 gi|14803206|gb|BI252593.1|BI252593 602952582T1 NIH_MGC_100 ... 912 0.0
 gi|4991284|gb|AI703384.1|AI703384 wd93f03.x1 NCI_CGAP_Lu24 ... 906 0.0
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 gi|14803620|gb|BI252803.1|BI252803 602952878T1 NIH_MGC_100 ... 898 0.0
 gi|14803446|gb|BI252716.1|BI252716 602952761T1 NIH_MGC_100 ... 898 0.0
 gi|5663486|gb|AI927522.1|AI927522 wo90h11.x1 NCI_CGAP_Kid11... 894 0.0
 gi|9510775|gb|BE465000.1|BE465000 hv76d05.x1 NCI_CGAP_Lu24 ... 866 0.0

>gi|4504507|ref|NP_000853.1| hydroxy-delta-5-steroid dehydrogenase, 3 beta-
 and steroid delta-isomerase 1; Hydroxy-delta-5-steroid dehydrogenase, 3 beta-
 and steroid [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi|12927162|emb|AL570648.1|AL570648 AL570648 LTI_NFL006_PL2... 1966 0.0
 gi|12928250|emb|AL571196.1|AL571196 AL571196 LTI_NFL006_PL2... 1939 0.0
 gi|12887155|emb|AL550307.1|AL550307 AL550307 LTI_NFL006_PL2... 1927 0.0
 gi|12877991|emb|AL545509.1|AL545509 AL545509 LTI_NFL006_PL2... 1925 0.0
 gi|12893183|emb|AL553392.1|AL553392 AL553392 LTI_NFL006_PL2... 1911 0.0
 gi|12895448|emb|AL554554.1|AL554554 AL554554 LTI_NFL006_PL2... 1909 0.0
 gi|12931487|emb|AL572835.1|AL572835 AL572835 LTI_NFL006_PL2... 1905 0.0
 gi|12940115|emb|AL577210.1|AL577210 AL577210 LTI_NFL006_PL2... 1903 0.0
 gi|12937740|emb|AL576013.1|AL576013 AL576013 LTI_NFL006_PL2... 1871 0.0
 gi|12882457|emb|AL547931.1|AL547931 AL547931 LTI_NFL006_PL2... 1861 0.0
 gi|12871910|emb|AL541135.1|AL541135 AL541135 LTI_FL002_PL1 ... 1852 0.0
 gi|12886860|emb|AL550160.1|AL550160 AL550160 LTI_NFL006_PL2... 1850 0.0
 gi|12938513|emb|AL576403.1|AL576403 AL576403 LTI_NFL006_PL2... 1842 0.0
 gi|12882827|emb|AL548117.1|AL548117 AL548117 LTI_NFL006_PL2... 1838 0.0
 gi|12895626|emb|AL554645.1|AL554645 AL554645 LTI_NFL006_PL2... 1836 0.0
 gi|12935937|emb|AL575100.1|AL575100 AL575100 LTI_NFL006_PL2... 1826 0.0
 gi|12882752|emb|AL548079.1|AL548079 AL548079 LTI_NFL006_PL2... 1826 0.0
 gi|12889651|emb|AL551573.1|AL551573 AL551573 LTI_NFL006_PL2... 1816 0.0
 gi|12888448|emb|AL550960.1|AL550960 AL550960 LTI_NFL006_PL2... 1808 0.0
 gi|12935106|emb|AL574677.1|AL574677 AL574677 LTI_NFL006_PL2... 1806 0.0
 gi|12872853|emb|AL541617.1|AL541617 AL541617 LTI_FL002_PL1 ... 1776 0.0
 gi|12939546|emb|AL576923.1|AL576923 AL576923 LTI_NFL006_PL2... 1774 0.0
 gi|12929393|emb|AL571768.1|AL571768 AL571768 LTI_NFL006_PL2... 1764 0.0
 gi|12934688|emb|AL574461.1|AL574461 AL574461 LTI_NFL006_PL2... 1762 0.0
 gi|12894585|emb|AL554113.1|AL554113 AL554113 LTI_NFL006_PL2... 1758 0.0
 gi|12877435|emb|AL544954.1|AL544954 AL544954 LTI_NFL006_PL2... 1754 0.0
 gi|12877044|emb|AL544564.1|AL544564 AL544564 LTI_NFL006_PL2... 1742 0.0
 gi|12892145|emb|AL552859.1|AL552859 AL552859 LTI_NFL006_PL2... 1719 0.0

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gi|12937367|emb|AL575824.1|AL575824 AL575824 LTI_NFL006_PL2... 1697 0.0
 gi|12871127|emb|AL540716.1|AL540716 AL540716 LTI_FL002_PL1 ... 1689 0.0
 gi|12885872|emb|AL549664.1|AL549664 AL549664 LTI_NFL006_PL2... 1679 0.0
 gi|12893547|emb|AL553580.1|AL553580 AL553580 LTI_NFL006_PL2... 1677 0.0
 gi|12882951|emb|AL548184.1|AL548184 AL548184 LTI_NFL006_PL2... 1677 0.0
 gi|12884358|emb|AL548898.1|AL548898 AL548898 LTI_NFL006_PL2... 1661 0.0
 gi|12938939|emb|AL576619.1|AL576619 AL576619 LTI_NFL006_PL2... 1649 0.0
 gi|12933347|emb|AL573779.1|AL573779 AL573779 LTI_NFL006_PL2... 1626 0.0
 gi|12878205|emb|AL545723.1|AL545723 AL545723 LTI_NFL006_PL2... 1604 0.0
 gi|12881974|emb|AL547683.1|AL547683 AL547683 LTI_NFL006_PL2... 1600 0.0
 gi|12871823|emb|AL541089.1|AL541089 AL541089 LTI_FL002_PL1 ... 1594 0.0
 gi|12879228|emb|AL546272.1|AL546272 AL546272 LTI_NFL006_PL2... 1572 0.0
 gi|14053316|gb|BG742663.1|BG742663 602633265F1 NCI_CGAP_Skn... 1568 0.0
 gi|12877300|emb|AL544820.1|AL544820 AL544820 LTI_NFL006_PL2... 1558 0.0
 gi|12884046|emb|AL548741.1|AL548741 AL548741 LTI_NFL006_PL2... 1552 0.0
 gi|12923409|emb|AL568754.1|AL568754 AL568754 LTI_FL002_PL1 ... 1528 0.0
 gi|12878320|emb|AL545804.1|AL545804 AL545804 LTI_NFL006_PL2... 1524 0.0
 gi|12931409|emb|AL572796.1|AL572796 AL572796 LTI_NFL006_PL2... 1485 0.0
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 gi|12887220|emb|AL550340.1|AL550340 AL550340 LTI_NFL006_PL2... 1475 0.0
 gi|12923357|emb|AL568728.1|AL568728 AL568728 LTI_FL002_PL1 ... 1459 0.0
 gi|13906575|gb|BG675192.1|BG675192 602621456F1 NCI_CGAP_Skn... 1405 0.0
 gi|12891598|emb|AL552571.1|AL552571 AL552571 LTI_NFL006_PL2... 1390 0.0
 gi|12923025|emb|AL568562.1|AL568562 AL568562 LTI_FL002_PL1 ... 1356 0.0
 gi|4312074|gb|AI458056.1|AI458056 tjb4a01.x1 Soares_NSF_F8... 1352 0.0
 gi|12887294|emb|AL550378.1|AL550378 AL550378 LTI_NFL006_PL2... 1334 0.0
 gi|14051781|gb|BG741128.1|BG741128 602631689F1 NCI_CGAP_Skn... 1302 0.0
 gi|12931361|emb|AL572772.1|AL572772 AL572772 LTI_NFL006_PL2... 1289 0.0
 gi|13961102|gb|BG696201.1|BG696201 602659327F1 NCI_CGAP_Skn... 1281 0.0
 gi|12884855|emb|AL549152.1|AL549152 AL549152 LTI_NFL006_PL2... 1281 0.0
 gi|12934204|emb|AL574213.1|AL574213 AL574213 LTI_NFL006_PL2... 1269 0.0
 gi|13578387|gb|BG570734.1|BG570734 602591849F1 NIH_MGC_79 H... 1267 0.0
 gi|12885649|emb|AL549552.1|AL549552 AL549552 LTI_NFL006_PL2... 1267 0.0
 gi|12886858|emb|AL550159.1|AL550159 AL550159 LTI_NFL006_PL2... 1265 0.0
 gi|12872851|emb|AL541616.1|AL541616 AL541616 LTI_FL002_PL1 ... 1229 0.0
 gi|12928875|emb|AL571509.1|AL571509 AL571509 LTI_NFL006_PL2... 1225 0.0
 gi|12884913|emb|AL549181.1|AL549181 AL549181 LTI_NFL006_PL2... 1225 0.0
 gi|14054469|gb|BG743816.1|BG743816 602631735F1 NCI_CGAP_Skn... 1193 0.0
 gi|13674098|gb|BG622727.1|BG622727 602647503F1 NIH_MGC_79 H... 1156 0.0
 gi|8140987|gb|AW951317.1|AW951317 EST363387 MAGE resequence... 1148 0.0
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 gi|3803768|gb|AI221565.1|AI221565 qg15d10.x1 Soares_placent... 1114 0.0
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 gi|12930920|emb|AL572546.1|AL572546 AL572546 LTI_NFL006_PL2... 1096 0.0
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 gi|12927889|emb|AL571013.1|AL571013 AL571013 LTI_NFL006_PL2... 1072 0.0
 gi|12877667|emb|AL545186.1|AL545186 AL545186 LTI_NFL006_PL2... 1053 0.0
 gi|12392723|gb|BF986403.1|BF986403 QV4-GN0143-031000-445-f0... 1031 0.0
 gi|1445235|gb|AA001626.1|AA001626 zh85e10.r1 Soares_fetal_I... 1017 0.0

>gi|4504509|ref|NP_000189.1| hydroxy-delta-5-steroid dehydrogenase, 3 beta-
 and steroid delta-isomerase 2; Hydroxy-delta-5-steroid dehydrogenase, 3 beta-
 and steroid [Homo sapiens]

EST Search:

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Sequences producing significant alignments:		(bits)	Value
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gi 12887155 emb AL550307.1 AL550307	AL550307 LTI_NFL006_PL2...	1400	0.0
gi 12877991 emb AL545509.1 AL545509	AL545509 LTI_NFL006_PL2...	1392	0.0
gi 12895448 emb AL554554.1 AL554554	AL554554 LTI_NFL006_PL2...	1374	0.0
gi 12893183 emb AL553392.1 AL553392	AL553392 LTI_NFL006_PL2...	1352	0.0
gi 12882457 emb AL547931.1 AL547931	AL547931 LTI_NFL006_PL2...	1334	0.0
gi 12871910 emb AL541135.1 AL541135	AL541135 LTI_FL002_PL1 ...	1332	0.0
gi 12886860 emb AL550160.1 AL550160	AL550160 LTI_NFL006_PL2...	1330	0.0
gi 10730542 dbj AV711236.1 AV711236	AV711236 Cu Homo sapien...	1326	0.0
gi 12882827 emb AL548117.1 AL548117	AL548117 LTI_NFL006_PL2...	1324	0.0
gi 12882752 emb AL548079.1 AL548079	AL548079 LTI_NFL006_PL2...	1316	0.0
gi 12895626 emb AL554645.1 AL554645	AL554645 LTI_NFL006_PL2...	1314	0.0
gi 12889651 emb AL551573.1 AL551573	AL551573 LTI_NFL006_PL2...	1294	0.0
gi 12888448 emb AL550960.1 AL550960	AL550960 LTI_NFL006_PL2...	1294	0.0
gi 10730656 dbj AV711350.1 AV711350	AV711350 Cu Homo sapien...	1285	0.0
gi 10730523 dbj AV711217.1 AV711217	AV711217 Cu Homo sapien...	1279	0.0
gi 10728926 dbj AV710297.1 AV710297	AV710297 Cu Homo sapien...	1275	0.0
gi 12872853 emb AL541617.1 AL541617	AL541617 LTI_FL002_PL1 ...	1271	0.0
gi 10730030 dbj AV710724.1 AV710724	AV710724 Cu Homo sapien...	1271	0.0
gi 10725428 dbj AV708163.1 AV708163	AV708163 ADC Homo sapie...	1271	0.0
gi 10730059 dbj AV710753.1 AV710753	AV710753 Cu Homo sapien...	1269	0.0
gi 10728958 dbj AV710329.1 AV710329	AV710329 Cu Homo sapien...	1265	0.0
gi 10730175 dbj AV710869.1 AV710869	AV710869 Cu Homo sapien...	1261	0.0
gi 12877044 emb AL544564.1 AL544564	AL544564 LTI_NFL006_PL2...	1257	0.0
gi 10728954 dbj AV710325.1 AV710325	AV710325 Cu Homo sapien...	1257	0.0
gi 10722430 dbj AV705124.1 AV705124	AV705124 ADB Homo sapie...	1257	0.0
gi 10730370 dbj AV711064.1 AV711064	AV711064 Cu Homo sapien...	1255	0.0
gi 10730249 dbj AV710943.1 AV710943	AV710943 Cu Homo sapien...	1255	0.0
gi 12894585 emb AL554113.1 AL554113	AL554113 LTI_NFL006_PL2...	1253	0.0
gi 10823643 dbj AV721796.1 AV721796	AV721796 HTB Homo sapie...	1253	0.0
gi 10730859 dbj AV711553.1 AV711553	AV711553 Cu Homo sapien...	1249	0.0
gi 10730058 dbj AV710752.1 AV710752	AV710752 Cu Homo sapien...	1247	0.0
gi 10730382 dbj AV711076.1 AV711076	AV711076 Cu Homo sapien...	1243	0.0
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gi 10720632 dbj AV703303.1 AV703303	AV703303 ADB Homo sapie...	1241	0.0
gi 10729167 dbj AV710538.1 AV710538	AV710538 Cu Homo sapien...	1239	0.0
gi 12927162 emb AL570648.1 AL570648	AL570648 LTI_NFL006_PL2...	1237	0.0
gi 10729922 dbj AV710616.1 AV710616	AV710616 Cu Homo sapien...	1237	0.0
gi 10725209 dbj AV707944.1 AV707944	AV707944 ADB Homo sapie...	1237	0.0
gi 10717788 dbj AV701458.1 AV701458	AV701458 ADA Homo sapie...	1233	0.0
gi 10818240 dbj AV721088.1 AV721088	AV721088 HTB Homo sapie...	1231	0.0
gi 10730255 dbj AV710949.1 AV710949	AV710949 Cu Homo sapien...	1231	0.0
gi 10729996 dbj AV710690.1 AV710690	AV710690 Cu Homo sapien...	1231	0.0
gi 10724631 dbj AV707364.1 AV707364	AV707364 ADB Homo sapie...	1231	0.0
gi 12892145 emb AL552859.1 AL552859	AL552859 LTI_NFL006_PL2...	1229	0.0
gi 10729084 dbj AV710455.1 AV710455	AV710455 Cu Homo sapien...	1227	0.0
gi 10728984 dbj AV710355.1 AV710355	AV710355 Cu Homo sapien...	1227	0.0
gi 10728930 dbj AV710301.1 AV710301	AV710301 Cu Homo sapien...	1227	0.0
gi 10730470 dbj AV711164.1 AV711164	AV711164 Cu Homo sapien...	1221	0.0
gi 10720681 dbj AV703353.1 AV703353	AV703353 ADB Homo sapie...	1221	0.0
gi 10717625 dbj AV701295.1 AV701295	AV701295 ADA Homo sapie...	1221	0.0
gi 10730748 dbj AV711442.1 AV711442	AV711442 Cu Homo sapien...	1219	0.0
gi 10724044 dbj AV706766.1 AV706766	AV706766 ADB Homo sapie...	1217	0.0

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gi 10729931 dbj AV710625.1 AV710625	AV710625 Cu Homo sapien...	1215	0.0
gi 10717918 dbj AV701588.1 AV701588	AV701588 ADB Homo sapie...	1215	0.0
gi 10728798 dbj AV710236.1 AV710236	AV710236 Cu Homo sapien...	1211	0.0
gi 10730083 dbj AV710777.1 AV710777	AV710777 Cu Homo sapien...	1209	0.0
gi 10721372 dbj AV704052.1 AV704052	AV704052 ADB Homo sapie...	1209	0.0
gi 10720663 dbj AV703334.1 AV703334	AV703334 ADB Homo sapie...	1209	0.0
gi 12940115 emb AL577210.1 AL577210	AL577210 LTI_NFL006_PL2...	1203	0.0
gi 10729927 dbj AV710621.1 AV710621	AV710621 Cu Homo sapien...	1203	0.0
gi 12885872 emb AL549664.1 AL549664	AL549664 LTI_NFL006_PL2...	1201	0.0
gi 10730418 dbj AV711112.1 AV711112	AV711112 Cu Homo sapien...	1199	0.0
gi 12928250 emb AL571196.1 AL571196	AL571196 LTI_NFL006_PL2...	1197	0.0
gi 10730638 dbj AV711332.1 AV711332	AV711332 Cu Homo sapien...	1195	0.0
gi 10730252 dbj AV710946.1 AV710946	AV710946 Cu Homo sapien...	1195	0.0
gi 10728707 dbj AV710181.1 AV710181	AV710181 Cu Homo sapien...	1195	0.0
gi 10728775 dbj AV710220.1 AV710220	AV710220 Cu Homo sapien...	1193	0.0
gi 12871127 emb AL540716.1 AL540716	AL540716 LTI_FL002_PL1 ...	1191	0.0
gi 10717763 dbj AV701433.1 AV701433	AV701433 ADA Homo sapie...	1191	0.0
gi 10728810 dbj AV710244.1 AV710244	AV710244 Cu Homo sapien...	1189	0.0
gi 10728686 dbj AV710172.1 AV710172	AV710172 Cu Homo sapien...	1189	0.0
gi 10728432 dbj AV710048.1 AV710048	AV710048 Cu Homo sapien...	1189	0.0
gi 10728736 dbj AV710195.1 AV710195	AV710195 Cu Homo sapien...	1187	0.0
gi 12882951 emb AL548184.1 AL548184	AL548184 LTI_NFL006_PL2...	1185	0.0
gi 10836637 dbj AV727216.1 AV727216	AV727216 HTC Homo sapie...	1185	0.0
gi 12931487 emb AL572835.1 AL572835	AL572835 LTI_NFL006_PL2...	1183	0.0
gi 10730541 dbj AV711235.1 AV711235	AV711235 Cu Homo sapien...	1183	0.0
gi 10717498 dbj AV701168.1 AV701168	AV701168 ADA Homo sapie...	1183	0.0
gi 10729910 dbj AV710604.1 AV710604	AV710604 Cu Homo sapien...	1181	0.0
gi 10728903 dbj AV710282.1 AV710282	AV710282 Cu Homo sapien...	1181	0.0
gi 10728792 dbj AV710233.1 AV710233	AV710233 Cu Homo sapien...	1181	0.0
gi 12937740 emb AL576013.1 AL576013	AL576013 LTI_NFL006_PL2...	1180	0.0
gi 12893547 emb AL553580.1 AL553580	AL553580 LTI_NFL006_PL2...	1180	0.0
gi 10729951 dbj AV710645.1 AV710645	AV710645 Cu Homo sapien...	1180	0.0
gi 10724073 dbj AV706795.1 AV706795	AV706795 ADB Homo sapie...	1178	0.0
gi 10728319 dbj AV710016.1 AV710016	AV710016 Cu Homo sapien...	1174	0.0
gi 10723602 dbj AV706317.1 AV706317	AV706317 ADB Homo sapie...	1170	0.0
gi 10722640 dbj AV705335.1 AV705335	AV705335 ADB Homo sapie...	1170	0.0
gi 10721164 dbj AV703837.1 AV703837	AV703837 ADB Homo sapie...	1170	0.0
gi 10728931 dbj AV710302.1 AV710302	AV710302 Cu Homo sapien...	1168	0.0
gi 10724584 dbj AV707317.1 AV707317	AV707317 ADB Homo sapie...	1168	0.0
gi 10723870 dbj AV706592.1 AV706592	AV706592 ADB Homo sapie...	1168	0.0
gi 10721084 dbj AV703757.1 AV703757	AV703757 ADB Homo sapie...	1168	0.0
gi 10717794 dbj AV701464.1 AV701464	AV701464 ADA Homo sapie...	1168	0.0
gi 12938513 emb AL576403.1 AL576403	AL576403 LTI_NFL006_PL2...	1166	0.0
gi 10730789 dbj AV711483.1 AV711483	AV711483 Cu Homo sapien...	1166	0.0
gi 10722122 dbj AV704810.1 AV704810	AV704810 ADB Homo sapie...	1166	0.0

>gi|4507185|ref|NP_003115.1| sepiapterin reductase (7,8-dihydrobiopterin:NADP+ oxidoreductase); Sepiapterin reductase [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 14078647 gb BG767994.1 BG767994	602743750F1 NIH_MGC_49 H...	1479 0.0
gi 14074318 gb BG763665.1 BG763665	602735883F1 NIH_MGC_49 H...	1443 0.0

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gi|11060920|gb|BF182777.1|BF182777 601809284F1 NIH_MGC_18 H... 1402 0.0
 gi|14178938|gb|BG831351.1|BG831351 602766203F1 NIH_MGC_42 H... 1392 0.0
 gi|13143827|gb|BG337389.1|BG337389 602434948F1 NIH_MGC_46 H... 1378 0.0
 gi|12430554|gb|BG035928.1|BG035928 602326035F1 NIH_MGC_90 H... 1372 0.0
 gi|14077523|gb|BG766870.1|BG766870 602740993F1 NIH_MGC_49 H... 1336 0.0
 gi|12427743|gb|BG034435.1|BG034435 602302839F1 NIH_MGC_87 H... 1320 0.0
 gi|10396046|gb|BE904122.1|BE904122 601494330F2 NIH_MGC_70 H... 1318 0.0
 gi|13337173|gb|BG430667.1|BG430667 602498463F1 NIH_MGC_75 H... 1292 0.0
 gi|11003989|dbj|AU142468.1|AU142468 AU142468 Y79AA1 Homo sa... 1285 0.0
 gi|14648668|gb|BI193648.1|BI193648 602946558F1 NIH_MGC_42 H... 1253 0.0
 gi|13450197|gb|BG488690.1|BG488690 602534629F1 NIH_MGC_18 H... 1205 0.0
 gi|12671640|gb|BG164847.1|BG164847 602340567F1 NIH_MGC_89 H... 1195 0.0
 gi|13289136|gb|BG395688.1|BG395688 602458332F1 NIH_MGC_16 H... 1189 0.0
 gi|10398692|gb|BE905423.1|BE905423 601495014F1 NIH_MGC_70 H... 1185 0.0
 gi|9335041|gb|BE389676.1|BE389676 601281907F1 NIH_MGC_44 Ho... 1132 0.0
 gi|13344731|gb|BG438225.1|BG438225 602490133F1 NIH_MGC_18 H... 1120 0.0
 gi|14812620|gb|BI257340.1|BI257340 602967404F1 NIH_MGC_12 H... 1100 0.0
 gi|14179931|gb|BG832344.1|BG832344 602765285F1 NIH_MGC_42 H... 1100 0.0
 gi|14052217|gb|BG741564.1|BG741564 602635181F1 NCI_CGAP_Skn... 1082 0.0
 gi|10734687|gb|BF026975.1|BF026975 601671150F1 NIH_MGC_20 H... 1005 0.0
 gi|9341224|gb|BE395859.1|BE395859 601312905F1 NIH_MGC_44 Ho... 993 0.0
 gi|9323592|gb|BE378227.1|BE378227 601238014F1 NIH_MGC_44 Ho... 993 0.0
 gi|12677110|gb|BG170407.1|BG170407 602322738F1 NIH_MGC_89 H... 967 0.0
 gi|12041099|gb|BF725188.1|BF725188 bx13b08.y1 Human Iris cD... 904 0.0
 gi|9890172|gb|BE619234.1|BE619234 601472991F1 NIH_MGC_68 Ho... 868 0.0
 gi|14061495|gb|BG750842.1|BG750842 602707368F1 NIH_MGC_43 H... 839 0.0
 gi|8750114|gb|BE206716.1|BE206716 bb26f11.x1 NIH_MGC_5 Homo... 809 0.0
 gi|1633911|gb|AA088398.1|AA088398 z182h01.r1 Stratagene col... 741 0.0
 gi|2269710|gb|AA527641.1|AA527641 ni29g12.s1 NCI_CGAP_Ew1 H... 680 0.0
 gi|2212939|gb|AA484126.1|AA484126 ne77g09.s1 NCI_CGAP_Ew1 H... 672 0.0
 gi|11614477|gb|BF527114.1|BF527114 602039563F2 NCI_CGAP_Bm... 642 0.0
 gi|5854647|gb|AW005869.1|AW005869 wz90a12.x1 NCI_CGAP_Bm25... 642 0.0
 gi|2211891|gb|AA483046.1|AA483046 ne71c01.s1 NCI_CGAP_Ew1 H... 638 0.0

>gi|177198|gb|AAA58352.1| (R)-3-hydroxybutyrate dehydrogenase

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 12783361 emb AL519868.1 AL519868	AL519868 LTI_NFL004_NBC...	1675 0.0
gi 12797239 emb AL533746.1 AL533746	AL533746 LTI_FL013_FBm...	1620 0.0
gi 12916262 emb AL565162.1 AL565162	AL565162 LTI_FL015_Bm1...	1493 0.0
gi 12783362 emb AL519869.1 AL519869	AL519869 LTI_NFL004_NBC...	1285 0.0
gi 11971146 gb BF685738.1 BF685738	602140418F1 NIH_MGC_46 H...	1269 0.0
gi 14178399 gb BG830812.1 BG830812	602767532F1 NIH_MGC_42 H...	1235 0.0
gi 12951379 emb AL582918.1 AL582918	AL582918 LTI_NFL010_BC2...	1203 0.0
gi 10201129 gb BE779931.1 BE779931	601467958F1 NIH_MGC_67 H...	1160 0.0
gi 5664763 gb AI928864.1 AI928864	au64c05.x1 Schneider feta...	1128 0.0
gi 13913479 gb BG682082.1 BG682082	602630059F1 NCI_CGAP_Skn...	1122 0.0
gi 12797240 emb AL533747.1 AL533747	AL533747 LTI_FL013_FBm...	1110 0.0
gi 2716956 gb AA707038.1 AA707038	zj32c08.s1 Soares_fetal_l...	1063 0.0
gi 2357785 gb AA579601.1 AA579601	nm71h09.s1 NCI_CGAP_Co9 H...	1029 0.0
gi 3253464 gb AI032767.1 AI032767	ox13h06.x1 Soares_fetal_l...	1017 0.0
gi 12797054 emb AL533561.1 AL533561	AL533561 LTI_FL015_Bm1...	983 0.0
gi 2397741 gb AA586927.1 AA586927	nn68g03.s1 NCI_CGAP_Lar1 ...	955 0.0

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gi|11592515|gb|BF509217.1|BF509217 UI-H-BI4-aov-h-02-0-UI.s... 942 0.0
gi|6589783|gb|AW246790.1|AW246790 2822178.3prime NIH_MGC_7 ... 902 0.0
gi|6086780|gb|AW118196.1|AW118196 xd91b01.x1 Soares_NFL_T_G... 892 0.0
gi|2908208|gb|AA834609.1|AA834609 od64c08.s1 NCI_CGAP_GCB1 ... 888 0.0
gi|2713499|gb|AA703581.1|AA703581 zj14e02.s1 Soares_fetal_I... 839 0.0
gi|3934411|gb|AI291637.1|AI291637 qm85b07.x1 NCI_CGAP_Lu5 H... 835 0.0
gi|2875181|gb|AA806431.1|AA806431 oc23a07.s1 NCI_CGAP_GCB1 ... 817 0.0
gi|5810898|gb|AI983679.1|AI983679 wt50g04.x1 NCI_CGAP_Pan1 ... 801 0.0
gi|3182604|gb|AA996115.1|AA996115 ou98g04.s1 NCI_CGAP_Kid3 ... 801 0.0

gi|1964997|gb|AA312648.1|AA312648 EST183324 Jurkat T-cells ... 797 0.0

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>gi|2338748|gb|AAB67236.1| oxidoreductase [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi 10300929 dbj AV698958.1 AV698958	AV698958 GKC Homo sapie...	1100	0.0
gi 13669994 gb BG618623.1 BG618623	602646057F1 NIH_MGC_76 H...	1088	0.0
gi 9876625 dbj AV655611.1 AV655611	AV655611 GLC Homo sapien...	1043	0.0
gi 13542818 gb BG545075.1 BG545075	602572263F1 NIH_MGC_77 H...	987	0.0
gi 13669741 gb BG618370.1 BG618370	602645735F1 NIH_MGC_76 H...	932	0.0
gi 13669621 gb BG618250.1 BG618250	602645983F1 NIH_MGC_76 H...	864	0.0
gi 9874191 dbj AV653177.1 AV653177	AV653177 GLC Homo sapien...	860	0.0
gi 13574972 gb BG567319.1 BG567319	602585811F1 NIH_MGC_76 H...	819	0.0
gi 6993788 gb AW453012.1 AW453012	UI-H-BW1-ama-b-05-0-UI.s1...	809	0.0
gi 9878346 dbj AV657332.1 AV657332	AV657332 GLC Homo sapien...	785	0.0
gi 10289690 dbj AV687827.1 AV687827	AV687827 GKC Homo sapie...	728	0.0
gi 10294040 dbj AV692177.1 AV692177	AV692177 GKC Homo sapie...	710	0.0
gi 10285234 dbj AV683371.1 AV683371	AV683371 GKC Homo sapie...	690	0.0
gi 10293387 dbj AV691524.1 AV691524	AV691524 GKC Homo sapie...	684	0.0
gi 4762302 gb AI658732.1 AI658732	tu22h11.x1 NCI_CGAP_Pr28 ...	672	0.0
gi 13711093 gb BG189406.1 BG189406	RST8451 Athersys RAGE Li...	664	0.0
gi 10285582 dbj AV683719.1 AV683719	AV683719 GKC Homo sapie...	644	0.0

>gi|4506359|ref|NP_000311.1| quinoid dihydropteridine reductase; dihydropteridine reductase [Homo sapiens]

EST Search:

Sequences producing significant alignments: (bits) Value

gi 12908475 emb AL561241.1 AL561241	AL561241 LTI_NFL010_BC2...	1816	0.0
gi 12781312 emb AL517819.1 AL517819	AL517819 LTI_NFL011_NBC...	1774	0.0
gi 12788167 emb AL524674.1 AL524674	AL524674 LTI_NFL003_NBC...	1768	0.0
gi 12797002 emb AL533509.1 AL533509	AL533509 LTI_FL015_Bm1...	1764	0.0
gi 12899944 emb AL556877.1 AL556877	AL556877 LTI_NFL006_PL2...	1752	0.0
gi 12790624 emb AL527131.1 AL527131	AL527131 LTI_NFL003_NBC...	1713	0.0
gi 13981336 gb BG706213.1 BG706213	602669493F1 NIH_MGC_96 H...	1596	0.0
gi 12790052 emb AL526559.1 AL526559	AL526559 LTI_NFL003_NBC...	1590	0.0
gi 14062755 gb BG752102.1 BG752102	602732090F1 NIH_MGC_43 H...	1586	0.0
gi 12781311 emb AL517818.1 AL517818	AL517818 LTI_NFL011_NBC...	1570	0.0
gi 12950590 emb AL582524.1 AL582524	AL582524 LTI_NFL010_BC2...	1552	0.0
gi 12899880 emb AL556843.1 AL556843	AL556843 LTI_NFL006_PL2...	1530	0.0
gi 13979564 gb BG705333.1 BG705333	602687849F1 NIH_MGC_95 H...	1495	0.0
gi 12916230 emb AL565146.1 AL565146	AL565146 LTI_FL015_Bm1...	1463	0.0
gi 9132175 gb BE312903.1 BE312903	601153331F1 NIH_MGC_19 Ho...	1461	0.0
gi 13980908 gb BG706000.1 BG706000	602669137F1 NIH_MGC_96 H...	1441	0.0
gi 14651085 gb B1196065.1 B1196065	602754509F1 NIH_MGC_19 H...	1439	0.0
gi 9133114 gb BE261182.1 BE261182	601147690F1 NIH_MGC_19 Ho...	1431	0.0
gi 13406319 gb BG474042.1 BG474042	602516601F1 NIH_MGC_16 H...	1417	0.0
gi 10149956 gb BE735964.1 BE735964	601305311F1 NIH_MGC_39 H...	1415	0.0
gi 11099812 gb BF206226.1 BF206226	601869219F1 NIH_MGC_19 H...	1409	0.0
gi 11641766 gb BF568386.1 BF568386	602184579F1 NIH_MGC_42 H...	1402	0.0
gi 13988103 gb BG709599.1 BG709599	602673640F1 NIH_MGC_96 H...	1400	0.0

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gi|13987762|gb|BG709432.1|BG709432 602673489F1 NIH_MGC_96 H... 1392 0.0
gi|14654693|gb|BI199672.1|BI199672 602763290F1 NIH_MGC_19 H... 1380 0.0
gi|12339131|gb|BF971916.1|BF971916 602240318F1 NIH_MGC_46 H... 1368 0.0
gi|12338770|gb|BF971542.1|BF971542 602239795F1 NIH_MGC_46 H... 1368 0.0
gi|13994815|gb|BG715628.1|BG715628 602675965F1 NIH_MGC_96 H... 1364 0.0
gi|14081358|gb|BG770705.1|BG770705 602734055F1 NIH_MGC_49 H... 1350 0.0
gi|14073363|gb|BG762710.1|BG762710 602734619F1 NIH_MGC_49 H... 1340 0.0
gi|3666090|gb|AI144281.1|AI144281 qb59f10.x1 NCI_CGAP_Brn23... 1340 0.0
gi|12911388|emb|AL562705.1|AL562705 AL562705 LTI_NFL003_NBC... 1336 0.0
gi|9131800|gb|BE312725.1|BE312725 601149689F1 NIH_MGC_19 Ho... 1336 0.0
gi|13994083|gb|BG715150.1|BG715150 602675603F1 NIH_MGC_96 H... 1332 0.0
gi|11258064|gb|BF310495.1|BF310495 601894981F1 NIH_MGC_19 H... 1332 0.0
gi|12340581|gb|BF973366.1|BF973366 602242316F1 NIH_MGC_46 H... 1320 0.0
gi|13145363|gb|BG338925.1|BG338925 602436725F1 NIH_MGC_46 H... 1318 0.0
gi|14072266|gb|BG761613.1|BG761613 602717857F1 NIH_MGC_49 H... 1310 0.0
gi|14655059|gb|BI200038.1|BI200038 602763190F1 NIH_MGC_19 H... 1302 0.0
gi|13983017|gb|BG707042.1|BG707042 602670372F1 NIH_MGC_96 H... 1302 0.0
gi|14074488|gb|BG763835.1|BG763835 602735680F1 NIH_MGC_49 H... 1298 0.0
gi|12785791|emb|AL522298.1|AL522298 AL522298 LTI_NFL004_NBC... 1283 0.0
gi|12432839|gb|BG037025.1|BG037025 602287379F1 NIH_MGC_96 H... 1245 0.0
gi|14654739|gb|BI199718.1|BI199718 602760580F1 NIH_MGC_19 H... 1241 0.0
gi|9136444|gb|BE314836.1|BE314836 601147576F1 NIH_MGC_19 Ho... 1241 0.0
gi|13995161|gb|BG715974.1|BG715974 602674039F1 NIH_MGC_96 H... 1233 0.0
gi|11261670|gb|BF313632.1|BF313632 601900280F1 NIH_MGC_19 H... 1231 0.0
gi|10158621|gb|BE744629.1|BE744629 601577461F1 NIH_MGC_9 Ho... 1225 0.0
gi|9126143|gb|BE255699.1|BE255699 601110541F1 NIH_MGC_16 Ho... 1225 0.0
gi|10364341|gb|BE898155.1|BE898155 601440285F1 NIH_MGC_72 H... 1223 0.0
gi|10356002|gb|BE894035.1|BE894035 601437848F1 NIH_MGC_72 H... 1223 0.0
gi|13993594|gb|BG714663.1|BG714663 602677014F1 NIH_MGC_96 H... 1217 0.0
gi|13981830|gb|BG706461.1|BG706461 602670011F1 NIH_MGC_96 H... 1211 0.0
gi|13329170|gb|BG422664.1|BG422664 602449167F1 NIH_MGC_14 H... 1205 0.0
gi|11642541|gb|BF569161.1|BF569161 602184579T1 NIH_MGC_42 H... 1205 0.0
gi|10143373|gb|BE729381.1|BE729381 601561403F1 NIH_MGC_20 H... 1193 0.0
gi|12334642|gb|BF967427.1|BF967427 602287347F1 NIH_MGC_96 H... 1189 0.0
gi|13030449|gb|BG281524.1|BG281524 602402059F1 NIH_MGC_20 H... 1183 0.0
gi|13143494|gb|BG337056.1|BG337056 602434324F1 NIH_MGC_46 H... 1176 0.0
gi|13985863|gb|BG708479.1|BG708479 602672457F1 NIH_MGC_96 H... 1172 0.0
gi|12334371|gb|BF967156.1|BF967156 602287724F1 NIH_MGC_96 H... 1172 0.0
gi|10143660|gb|BE729668.1|BE729668 601562815F1 NIH_MGC_20 H... 1166 0.0
gi|13408539|gb|BG476260.1|BG476260 602525123F1 NIH_MGC_20 H... 1164 0.0
gi|10964924|gb|BF125884.1|BF125884 601763094F1 NIH_MGC_20 H... 1164 0.0
gi|3739860|gb|AI188651.1|AI188651 qd15g07.x1 Soares_placent... 1162 0.0
gi|13985115|gb|BG708103.1|BG708103 602671554F1 NIH_MGC_96 H... 1156 0.0
gi|9332444|gb|BE387079.1|BE387079 601275165F1 NIH_MGC_20 Ho... 1142 0.0
gi|9124995|gb|BE254566.1|BE254566 601115188F1 NIH_MGC_16 Ho... 1142 0.0
gi|12334862|gb|BF967647.1|BF967647 602287347T1 NIH_MGC_96 H... 1140 0.0
gi|11100810|gb|BF207224.1|BF207224 601870669F1 NIH_MGC_19 H... 1132 0.0
gi|12334887|gb|BF967672.1|BF967672 602287379T1 NIH_MGC_96 H... 1130 0.0
gi|13030971|gb|BG282045.1|BG282045 602402758F1 NIH_MGC_20 H... 1124 0.0
gi|13973958|gb|BG702530.1|BG702530 602684418F1 NIH_MGC_95 H... 1120 0.0
gi|11098635|gb|BF205049.1|BF205049 601866676F1 NIH_MGC_17 H... 1116 0.0
gi|6399286|gb|AW167761.1|AW167761 xn48g05.x1 Soares_NHCe_ce... 1110 0.0
gi|14052120|gb|BG741467.1|BG741467 602632257F1 NCI_CGAP_Skn... 1108 0.0
gi|9136756|gb|BE263218.1|BE263218 601145094F2 NIH_MGC_19 Ho... 1096 0.0

gi|9330889|gb|BE385524.1|BE385524 601278046F1 NIH_MGC_20 Ho... 1086 0.0
gi|8122899|gb|AW945148.1|AW945148 EST361341 MAGE resequence... 1076 0.0

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gi|9126167|gb|BE255723.1|BE255723 601110574F1 NIH_MGC_16 Ho... 1067 0.0
 gi|14075337|gb|BG764684.1|BG764684 602736768F1 NIH_MGC_49 H... 1065 0.0
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 gi|12415647|gb|BG027229.1|BG027229 602295923F1 NIH_MGC_86 H... 1043 0.0
 gi|9335076|gb|BE389711.1|BE389711 601281955F1 NIH_MGC_44 Ho... 1039 0.0
 gi|3658900|gb|A1142541.1|A1142541 qb47a12.x1 NCI_CGAP_Bm23... 1037 0.0
 gi|12339043|gb|BF971828.1|BF971828 602240414F1 NIH_MGC_46 H... 1033 0.0
 gi|9893798|gb|BE622858.1|BE622858 601441025T1 NIH_MGC_72 Ho... 1021 0.0
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 gi|6025803|gb|AW070805.1|AW070805 xa30e09.x1 NCI_CGAP_Br18 ... 999 0.0
 gi|14172587|gb|BG825000.1|BG825000 602747441F1 NIH_MGC_17 H... 997 0.0
 gi|10221442|gb|BE767784.1|BE767784 RC5-GN0046-040800-031-D0... 979 0.0
 gi|5920706|gb|AW055003.1|AW055003 wy98c01.x1 NCI_CGAP_Bm23... 979 0.0
 gi|5436685|gb|A1817606.1|A1817606 wk39d09.x1 NCI_CGAP_Pr22 ... 952 0.0
 gi|11642937|gb|BF569557.1|BF569557 602186057F1 NIH_MGC_45 H... 928 0.0
 gi|6798913|gb|AW328417.1|AW328417 ds02d10.x1 NIH_MGC_4 Homo... 926 0.0
 gi|9869668|dbj|AV648654.1|AV648654 AV648654 GLC Homo sapien... 922 0.0
 gi|14654708|gb|B1199687.1|B1199687 602760523F1 NIH_MGC_19 H... 916 0.0
 gi|9869672|dbj|AV648658.1|AV648658 AV648658 GLC Homo sapien... 916 0.0
 gi|7041436|gb|AW471330.1|AW471330 xw57h08.x1 NCI_CGAP_Pan1 ... 910 0.0

>gi|4506571|ref|NP_003699.1| microsomal NAD⁺-dependent retinol
 dehydrogenase 4 [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 9882195 dbj AV661181.1 AV661181 AV661181 GLC Homo sapien...	987	0.0
gi 9882144 dbj AV661130.1 AV661130 AV661130 GLC Homo sapien...	928	0.0
gi 10297142 dbj AV695279.1 AV695279 AV695279 GKC Homo sapie...	611	e-172
gi 10290555 dbj AV688692.1 AV688692 AV688692 GKC Homo sapie...	595	e-167
gi 9868702 dbj AV647688.1 AV647688 AV647688 GLC Homo sapien...	543	e-152
gi 9868612 dbj AV647598.1 AV647598 AV647598 GLC Homo sapien...	543	e-152
gi 9868272 dbj AV647258.1 AV647258 AV647258 GLC Homo sapien...	543	e-152
gi 9868493 dbj AV647479.1 AV647479 AV647479 GLC Homo sapien...	504	e-140

>gi|7705855|ref|NP_057226.1| steroid dehydrogenase homolog [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 14052291 gb BG741638.1 BG741638 602635486F1 NCI_CGAP_Skn...	1558	0.0
gi 13906836 gb BG675440.1 BG675440 602621769F1 NCI_CGAP_Skn...	1526	0.0
gi 13913842 gb BG682445.1 BG682445 602630189F1 NCI_CGAP_Skn...	1425	0.0
gi 14049580 gb BG779263.1 BG779263 602665945F1 NIH_MGC_60 H...	1413	0.0
gi 13996568 gb BG717381.1 BG717381 602689723F1 NIH_MGC_97 H...	1404	0.0

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gi|13995178|gb|BG715991.1|BG715991 602674063F1 NIH_MGC_96 H... 1370 0.0
 gi|14511171|gb|BI092841.1|BI092841 602858662F1 NIH_MGC_10 H... 1346 0.0
 gi|12670128|gb|BG163425.1|BG163425 602338406F1 NIH_MGC_89 H... 1346 0.0
 gi|14511086|gb|BI092756.1|BI092756 602858554F1 NIH_MGC_10 H... 1332 0.0
 gi|13987330|gb|BG709215.1|BG709215 602675095F1 NIH_MGC_96 H... 1332 0.0
 gi|13910534|gb|BG679137.1|BG679137 602627203F1 NCI_CGAP_Skn... 1328 0.0
 gi|13662470|gb|BG611099.1|BG611099 602612052F1 NIH_MGC_60 H... 1314 0.0
 gi|13045302|gb|BG289447.1|BG289447 602381485F1 NIH_MGC_93 H... 1314 0.0
 gi|13047173|gb|BG290374.1|BG290374 602388212F1 NIH_MGC_93 H... 1302 0.0
 gi|13339353|gb|BG432847.1|BG432847 602496055F1 NIH_MGC_75 H... 1285 0.0
 gi|10321791|gb|BE872911.1|BE872911 601451505F1 NIH_MGC_65 H... 1261 0.0
 gi|13546503|gb|BG547838.1|BG547838 602576130F1 NIH_MGC_77 H... 1259 0.0
 gi|13532633|gb|BG540400.1|BG540400 602568710F1 NIH_MGC_77 H... 1253 0.0
 gi|13464096|gb|BG502579.1|BG502579 602549403F1 NIH_MGC_61 H... 1253 0.0
 gi|12673441|gb|BG166738.1|BG166738 602339258F1 NIH_MGC_89 H... 1237 0.0
 gi|13047275|gb|BG290433.1|BG290433 602388282F1 NIH_MGC_93 H... 1231 0.0
 gi|12425026|gb|BG033087.1|BG033087 602300210F1 NIH_MGC_87 H... 1227 0.0
 gi|12383684|gb|BF980872.1|BF980872 602304083F1 NIH_MGC_88 H... 1227 0.0
 gi|9890063|gb|BE619038.1|BE619038 601472854F1 NIH_MGC_68 Ho... 1225 0.0
 gi|12758336|gb|BG248520.1|BG248520 602400680F1 NIH_MGC_15 H... 1219 0.0
 gi|13995758|gb|BG716571.1|BG716571 602677825F1 NIH_MGC_96 H... 1215 0.0
 gi|9896933|gb|BE615334.1|BE615334 601280732F1 NIH_MGC_39 Ho... 1211 0.0
 gi|12387354|gb|BF984542.1|BF984542 602307730F1 NIH_MGC_88 H... 1170 0.0
 gi|13717172|gb|BG195485.1|BG195485 RST14677 Athersys RAGE L... 1168 0.0
 gi|10401855|gb|BE907862.1|BE907862 601501989F1 NIH_MGC_70 H... 1166 0.0
 gi|12670948|gb|BG164245.1|BG164245 602341256F1 NIH_MGC_89 H... 1152 0.0
 gi|11331761|gb|BF369736.1|BF369736 QV4-GN0120-250900-427-c1... 1150 0.0
 gi|2321379|gb|AA551127.1|AA551127 nk75g03.s1 NCI_CGAP_Sch1 ... 1150 0.0
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 gi|13528208|gb|BG536662.1|BG536662 602566285F1 NIH_MGC_77 H... 1144 0.0
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 gi|12344922|gb|BF977707.1|BF977707 602148324F1 NIH_MGC_62 H... 1130 0.0
 gi|11944012|gb|BF670117.1|BF670117 602119443F1 NIH_MGC_56 H... 1122 0.0
 gi|13546026|gb|BG547348.1|BG547348 602574782F1 NIH_MGC_77 H... 1118 0.0
 gi|12676722|gb|BG170019.1|BG170019 602323391F1 NIH_MGC_89 H... 1088 0.0
 gi|11649900|gb|BF576188.1|BF576188 602132627F1 NIH_MGC_81 H... 1078 0.0
 gi|14512380|gb|BI094050.1|BI094050 602860005F1 NIH_MGC_10 H... 1074 0.0
 gi|13050007|gb|BG291790.1|BG291790 602386010F1 NIH_MGC_93 H... 1068 0.0
 gi|13460516|gb|BG498986.1|BG498986 602544674F1 NIH_MGC_60 H... 1067 0.0
 gi|10796504|dbj|AV714987.1|AV714987 AV714987 DCB Homo sapie... 1065 0.0
 gi|12604885|gb|BG111281.1|BG111281 602283354F1 NIH_MGC_86 H... 1047 0.0
 gi|14049576|gb|BG779259.1|BG779259 602665938F1 NIH_MGC_60 H... 1045 0.0
 gi|11111634|gb|BF218048.1|BF218048 601882836F1 NIH_MGC_57 H... 1045 0.0
 gi|12383548|gb|BF980736.1|BF980736 602303884F1 NIH_MGC_88 H... 1035 0.0
 gi|14049921|gb|BG779604.1|BG779604 602668351F1 NIH_MGC_60 H... 1033 0.0
 gi|11252265|gb|BF305371.1|BF305371 601892847F1 NIH_MGC_17 H... 1021 0.0
 gi|13041668|gb|BG287637.1|BG287637 602384460F1 NIH_MGC_93 H... 1019 0.0
 gi|12677991|gb|BG171288.1|BG171288 602322318F1 NIH_MGC_89 H... 1015 0.0
 gi|4435867|gb|AI521732.1|AI521732 ti82c06.x1 NCI_CGAP_Kid11... 1007 0.0
 gi|7136231|gb|AW498488.1|AW498488 EST0021 Human Fetal Brain... 1001 0.0
 gi|12097334|gb|BF792280.1|BF792280 602252790F1 NIH_MGC_84 H... 991 0.0
 gi|1522055|gb|AA044198.1|AA044198 zk50e08.r1 Soares_pregnan... 991 0.0
 gi|14049653|gb|BG779336.1|BG779336 602665853F1 NIH_MGC_60 H... 973 0.0
 gi|14049581|gb|BG779264.1|BG779264 602665946F1 NIH_MGC_60 H... 961 0.0
 gi|1371208|gb|W63627.1|W63627 zc56f09.r1 Soares_parathyroid... 961 0.0
 gi|7136229|gb|AW498487.1|AW498487 EST0020 Human Fetal Brain... 959 0.0
 gi|11629318|gb|BF541849.1|BF541849 602069042F1 NIH_MGC_58 H... 954 0.0

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gi|14003292|gb|BG724105.1|BG724105 602697407F1 NIH_MGC_97 H... 950 0.0
 gi|14070365|gb|BG759712.1|BG759712 602711109F1 NIH_MGC_48 H... 940 0.0
 gi|1735571|gb|AA161274.1|AA161274 zq38f09.r1 Stratagene hNT... 940 0.0
 gi|12066633|gb|BF739957.1|BF739957 7o41d12.x1 NCI_CGAP_Kid1... 932 0.0
 gi|11112382|gb|BF218886.1|BF218886 601885044F1 NIH_MGC_57 H... 928 0.0
 gi|11977542|gb|BF692134.1|BF692134 602248727F1 NIH_MGC_62 H... 920 0.0
 gi|11767406|gb|BE963886.2|BE963886 601657654R1 NIH_MGC_68 H... 912 0.0
 gi|3920107|gb|AI281874.1|AI281874 qt68g10.x1 NCI_CGAP_Eso2 ... 910 0.0
 gi|10970869|gb|BF131829.1|BF131829 601820750F1 NIH_MGC_58 H... 906 0.0
 gi|13043036|gb|BG288319.1|BG288319 602383655F1 NIH_MGC_93 H... 900 0.0
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 gi|5113976|gb|AI745688.1|AI745688 tr24h04.x1 NCI_CGAP_Ov23 ... 894 0.0
 gi|1694006|gb|AA132312.1|AA132312 zo17g05.s1 Stratagene col... 874 0.0
 gi|5875725|gb|AW022195.1|AW022195 df34b10.y1 Morton Fetal C... 870 0.0
 gi|2113174|gb|AA429830.1|AA429830 zw60g07.r1 Soares_total f... 868 0.0
 gi|11257080|gb|BF309649.1|BF309649 601891975F1 NIH_MGC_17 H... 866 0.0
 gi|11649499|gb|BF575787.1|BF575787 602134824F1 NIH_MGC_81 H... 858 0.0
 gi|12339937|gb|BF972722.1|BF972722 602240976F1 NIH_MGC_46 H... 856 0.0
 gi|5113967|gb|AI745679.1|AI745679 tr24g03.x1 NCI_CGAP_Ov23 ... 856 0.0
 gi|4486633|gb|AI554270.1|AI554270 tq05b03.x1 NCI_CGAP_Ut3 H... 852 0.0
 gi|9771262|gb|BE542617.1|BE542617 601067112F1 NIH_MGC_10 Ho... 848 0.0
 gi|7043218|gb|AW473112.1|AW473112 xp68h08.x2 NCI_CGAP_Ov39 ... 848 0.0
 gi|4372411|gb|AI479243.1|AI479243 tm56b07.x1 NCI_CGAP_Kid11... 844 0.0
 gi|1138607|gb|N24457.1|N24457 yx15a03.r1 Soares melanocyte ... 837 0.0
 gi|1577675|gb|AA070298.1|AA070298 zm68c06.r1 Stratagene neu... 831 0.0
 gi|8909315|gb|BE221906.1|BE221906 hu04d07.x1 NCI_CGAP_Lu24 ... 821 0.0
 gi|6975014|gb|AW439708.1|AW439708 hb87f06.x1 NCI_CGAP_Ut2 H... 809 0.0
 gi|12077114|gb|BF750438.1|BF750438 RC1-BN0410-261000-013-a0... 803 0.0
 gi|5232026|gb|AI765517.1|AI765517 wi81a05.x1 NCI_CGAP_Kid12... 803 0.0
 gi|4969797|gb|AI692457.1|AI692457 wd70f09.x1 NCI_CGAP_Lu24 ... 803 0.0
 gi|7667944|gb|AW753012.1|AW753012 QV0-CT0225-011199-041-h01... 801 0.0

>gi|3859946|gb|AAC72923.1| retinol dehydrogenase [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
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gi 9868702 dbj AV647688.1 AV647688 AV647688 GLC Homo sapien...	1017	0.0
gi 9882195 dbj AV661181.1 AV661181 AV661181 GLC Homo sapien...	955	0.0
gi 9882144 dbj AV661130.1 AV661130 AV661130 GLC Homo sapien...	928	0.0
gi 7310181 gb AW605440.1 AW605440 PM1-DT0063-170100-002-h11...	880	0.0
gi 3432904 gb AI093928.1 AI093928 qa27e04.s1 Soares_NhHMPu...	825	0.0

>gi|8393516|ref|NP_057006.1| NAD(P) dependent steroid dehydrogenase-like; H105e3 [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 12798924 emb AL535431.1 AL535431 AL535431 LTI_FL013_FBm...	1852	0.0
gi 12795943 emb AL532450.1 AL532450 AL532450 LTI_NFL001_NBC...	1800	0.0
gi 12798925 emb AL535432.1 AL535432 AL535432 LTI_FL013_FBm...	1758	0.0

gi|12783081|emb|AL519588.1|AL519588 AL519588 LTI_NFL004_NBC... 1721 0.0
 gi|12791348|emb|AL527855.1|AL527855 AL527855 LTI_NFL003_NBC... 1687 0.0
 gi|12787933|emb|AL524440.1|AL524440 AL524440 LTI_NFL003_NBC... 1639 0.0
 gi|12783082|emb|AL519589.1|AL519589 AL519589 LTI_NFL004_NBC... 1614 0.0
 gi|12914749|emb|AL564391.1|AL564391 AL564391 LTI_NFL001_NBC... 1590 0.0
 gi|14051016|gb|BG740363.1|BG740363 602634122F1 NCI_CGAP_Skn... 1550 0.0
 gi|12787932|emb|AL524439.1|AL524439 AL524439 LTI_NFL003_NBC... 1548 0.0
 gi|12890777|emb|AL552152.1|AL552152 AL552152 LTI_NFL006_PL2... 1542 0.0
 gi|13402737|gb|BG470462.1|BG470462 602511345F1 NIH_MGC_16 H... 1509 0.0
 gi|14053579|gb|BG742926.1|BG742926 602632016F1 NCI_CGAP_Skn... 1487 0.0
 gi|12791349|emb|AL527856.1|AL527856 AL527856 LTI_NFL003_NBC... 1475 0.0
 gi|13995873|gb|BG716686.1|BG716686 602678065F1 NIH_MGC_96 H... 1469 0.0
 gi|13969104|gb|BG700101.1|BG700101 602679482F1 NIH_MGC_95 H... 1453 0.0
 gi|12912123|emb|AL563072.1|AL563072 AL563072 LTI_NFL003_NBC... 1447 0.0
 gi|14620007|gb|B1160006.1|B1160006 602864207F1 NIH_MGC_42 H... 1439 0.0
 gi|13287087|gb|BG393639.1|BG393639 602412043F1 NIH_MGC_92 H... 1384 0.0
 gi|12098534|gb|BF793480.1|BF793480 602254967F1 NIH_MGC_84 H... 1366 0.0
 gi|12347277|gb|BF980062.1|BF980062 602288651T1 NIH_MGC_97 H... 1360 0.0
 gi|13450037|gb|BG488530.1|BG488530 602534430F1 NIH_MGC_18 H... 1344 0.0
 gi|10321873|gb|BE873097.1|BE873097 601451595F1 NIH_MGC_65 H... 1342 0.0
 gi|12936786|emb|AL575531.1|AL575531 AL575531 LTI_NFL006_PL2... 1336 0.0
 gi|12098227|gb|BF793173.1|BF793173 602253005F1 NIH_MGC_84 H... 1332 0.0
 gi|9894650|gb|BE613053.1|BE613053 601451936T1 NIH_MGC_66 Ho... 1324 0.0
 gi|13994535|gb|BG715352.1|BG715352 602677379F1 NIH_MGC_96 H... 1322 0.0
 gi|9893974|gb|BE612377.1|BE612377 601451936F1 NIH_MGC_66 Ho... 1300 0.0
 gi|4740315|gb|AI656336.1|AI656336 tt44h04.x1 NCI_CGAP_GC6 H... 1298 0.0
 gi|12673903|gb|BG167200.1|BG167200 602345338F1 NIH_MGC_89 H... 1237 0.0
 gi|9125384|gb|BE254951.1|BE254951 601115211F1 NIH_MGC_16 Ho... 1231 0.0
 gi|10728677|dbj|AV710167.1|AV710167 AV710167 Cu Homo sapien... 1229 0.0
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 gi|12672161|gb|BG165458.1|BG165458 602345840F1 NIH_MGC_89 H... 1225 0.0
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 gi|13521645|gb|BG530108.1|BG530108 602558776F1 NIH_MGC_61 H... 1209 0.0
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 gi|4373215|gb|AI480047.1|AI480047 tm71e11.x1 NCI_CGAP_Bm25... 1138 0.0
 gi|4289089|gb|AI433425.1|AI433425 ti65d04.x1 NCI_CGAP_Kid11... 1090 0.0
 gi|11106808|gb|BF213222.1|BF213222 601844705F1 NIH_MGC_55 H... 1078 0.0
 gi|10215890|gb|BE794692.1|BE794692 601590508F1 NIH_MGC_7 Ho... 1074 0.0
 gi|14002691|gb|BG723504.1|BG723504 602694207F1 NIH_MGC_97 H... 1067 0.0
 gi|8006977|gb|AW872924.1|AW872924 hq20a04.x1 NCI_CGAP_Adr1 ... 1059 0.0
 gi|10328016|gb|BE879240.1|BE879240 601486988F1 NIH_MGC_69 H... 1047 0.0
 gi|12346975|gb|BF979760.1|BF979760 602288651F1 NIH_MGC_97 H... 1027 0.0
 gi|8139772|gb|AW950007.1|AW950007 EST362197 MAGE resequence... 1011 0.0
 gi|12901543|emb|AL557690.1|AL557690 AL557690 LTI_FL012_TC1 ... 1005 0.0
 gi|7236923|gb|AW572192.1|AW572192 xt75h04.x2 NCI_CGAP_Ut2 H... 975 0.0
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 gi|14649236|gb|BI194216.1|BI194216 602945971F1 NIH_MGC_42 H... 961 0.0
 gi|13141924|gb|BG335486.1|BG335486 602403957F1 NIH_MGC_21 H... 946 0.0
 gi|12132238|gb|BF803249.1|BF803249 IL5-CI0149-011100-224-h0... 934 0.0
 gi|4111947|gb|AI360326.1|AI360326 qy89e03.x1 NCI_CGAP_Bm25... 930 0.0
 gi|2162963|gb|AA448943.1|AA448943 zx07a07.r1 Soares_total f... 926 0.0
 gi|12070667|gb|BF743991.1|BF743991 RC0-BT0812-181000-035-a0... 916 0.0
 gi|7913755|gb|AW820761.1|AW820761 RC5-ST0300-270300-014-B08... 916 0.0
 gi|2411270|gb|AA595924.1|AA595924 nn15h12.s1 NCI_CGAP_Co12 ... 904 0.0
 gi|1802687|gb|AA207195.1|AA207195 zq73h05.r1 Stratagene neu... 900 0.0

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gi|10829806|dbj|AV724928.1|AV724928 AV724928 HTB Homo sapie... 894 0.0
gi|3405877|gb|AI076699.1|AI076699 oz16f12.x1 Soares_fetal_I... 872 0.0
gi|14471711|gb|BI064184.1|BI064184 IL3-UT0119-180401-476-B0... 870 0.0
gi|5130990|gb|AI752726.1|AI752726 cn18d06.y1 Normal Human T... 839 0.0
gi|3418300|gb|AI081508.1|AI081508 oz53h08.x1 Soares_senesce... 833 0.0
gi|9323549|gb|BE378184.1|BE378184 601237939F1 NIH_MGC_44 Ho... 827 0.0
gi|10719367|dbj|AV703037.1|AV703037 AV703037 ADB Homo sapie... 823 0.0
gi|3434745|gb|AI095769.1|AI095769 qb30c05.x1 Soares_pregnan... 815 0.0

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>gi|7661658|ref|NP_056325.1| DKFZP566O084 protein [Homo sapiens]

EST Search:

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gi 10156033 gb BE742041.1 BE742041	601594721F1 NIH_MGC_9 Ho...	1400 0.0
gi 10150854 gb BE736951.1 BE736951	601306912F1 NIH_MGC_39 H...	1392 0.0
gi 10216541 gb BE795343.1 BE795343	601586662F1 NIH_MGC_7 Ho...	1376 0.0
gi 12678574 gb BG171871.1 BG171871	602322675F1 NIH_MGC_89 H...	1279 0.0
gi 9331772 gb BE386407.1 BE386407	601273578F1 NIH_MGC_20 Ho...	1249 0.0
gi 9148949 gb BE274012.1 BE274012	601104628F1 NIH_MGC_14 Ho...	1239 0.0
gi 9334357 gb BE388992.1 BE388992	601284814F1 NIH_MGC_44 Ho...	1229 0.0
gi 9335068 gb BE389703.1 BE389703	601281945F1 NIH_MGC_44 Ho...	1172 0.0
gi 13409767 gb BG477488.1 BG477488	602521540F1 NIH_MGC_20 H...	1164 0.0
gi 10206923 gb BE785725.1 BE785725	601475291F1 NIH_MGC_68 H...	1160 0.0
gi 14073190 gb BG762537.1 BG762537	602733994F1 NIH_MGC_49 H...	1098 0.0
gi 9335871 gb BE390506.1 BE390506	601284123F1 NIH_MGC_44 Ho...	1072 0.0
gi 1383218 gb W73084.1 W73084	zd54a11.r1 Soares_fetal_heart...	952 0.0
gi 5674161 gb AI935291.1 AI935291	wp16e06.x1 NCI_CGAP_Lu19 ...	924 0.0
gi 844959 gb R71442.1 R71442	yi51f01.r1 Soares_placenta_Nb2...	908 0.0
gi 1163805 gb N40260.1 N40260	yx99g06.r1 Soares_melanocyte ...	892 0.0
gi 5920966 gb AW055263.1 AW055263	wz16b09.x1 NCI_CGAP_Ut4 H...	872 0.0
gi 12240526 gb BF852782.1 BF852782	MR3-EN0087-151200-012-f0...	864 0.0
gi 1319356 gb W37623.1 W37623	zc12d10.r1 Soares_parathyroid...	839 0.0
gi 1319173 gb W37568.1 W37568	zc10c03.r1 Soares_parathyroid...	821 0.0

>gi|12804999|gb|AAH01953.1|AAH01953 oxidoreductase UCPA [Homo sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
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gi 12793625 emb AL530132.1 AL530132	AL530132 LTI_NFL001_NBC...	1481 0.0
gi 12936195 emb AL575230.1 AL575230	AL575230 LTI_NFL006_PL2...	1477 0.0
gi 13294054 gb BG400606.1 BG400606	602464263F1 NIH_MGC_75 H...	1451 0.0
gi 13452667 gb BG491155.1 BG491155	602518792F1 NIH_MGC_18 H...	1392 0.0
gi 14051133 gb BG740480.1 BG740480	602633875F1 NCI_CGAP_Skn...	1390 0.0
gi 13982652 gb BG706873.1 BG706873	602672037F1 NIH_MGC_96 H...	1378 0.0
gi 3281013 gb AI041819.1 AI041819	oy34a10.x1 Soares_parathy...	1354 0.0
gi 13545674 gb BG547009.1 BG547009	602573805F1 NIH_MGC_77 H...	1336 0.0
gi 12793624 emb AL530131.1 AL530131	AL530131 LTI_NFL001_NBC...	1336 0.0
gi 13976480 gb BG703780.1 BG703780	602686804F1 NIH_MGC_95 H...	1328 0.0
gi 13039621 gb BG286600.1 BG286600	602381608F1 NIH_MGC_93 H...	1304 0.0
gi 13544541 gb BG545876.1 BG545876	602573161F1 NIH_MGC_77 H...	1302 0.0
gi 2839375 gb AA780044.1 AA780044	zj24e12.s1 Soares_fetal_I...	1300 0.0
gi 11257955 gb BF310393.1 BF310393	601895043F1 NIH_MGC_19 H...	1294 0.0
gi 12598260 gb BG104418.1 BG104418	602311036F1 NIH_MGC_20 H...	1291 0.0
gi 12598014 gb BG104172.1 BG104172	602310736F1 NIH_MGC_20 H...	1287 0.0
gi 4073201 gb AI336274.1 AI336274	qt45e02.x1 Soares_fetal_I...	1277 0.0
gi 12606210 gb BG112704.1 BG112704	602282264F1 NIH_MGC_86 H...	1263 0.0

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 gi|3238050|gb|AI022809.1|AI022809 ow55f02.x1 Soares_parathy... 1255 0.0
 gi|2877836|gb|AA808430.1|AA808430 oe53b08.s1 NCI_CGAP_Lu5 H... 1209 0.0
 gi|6471396|gb|AW192697.1|AW192697 xl48h04.x1 NCI_CGAP_Pan1 ... 1193 0.0
 gi|12910323|emb|AL562168.1|AL562168 AL562168 LTI_NFL003_NBC... 1178 0.0
 gi|9186202|gb|BE302454.1|BE302454 ba65f04.y1 NIH_MGC_20 Hom... 1164 0.0
 gi|5813571|gb|AI986294.1|AI986294 wz64c08.x1 NCI_CGAP_Mel15... 1156 0.0
 gi|9323894|gb|BE378429.1|BE378429 601236767F1 NIH_MGC_44 Ho... 1142 0.0
 gi|5109073|gb|AI740785.1|AI740785 wg24b10.x1 Soares_NSF_F8... 1138 0.0
 gi|3400111|gb|AI073467.1|AI073467 ov45a08.x1 Soares_testis... 1126 0.0
 gi|6228615|gb|AW157214.1|AW157214 au92h07.x1 Schneider_feta... 1124 0.0
 gi|9186195|gb|BE302447.1|BE302447 ba65e04.y1 NIH_MGC_20 Hom... 1120 0.0
 gi|4435368|gb|AI521233.1|AI521233 to66f02.x1 NCI_CGAP_Gas4 ... 1080 0.0
 gi|1287581|emb|AL543333.1|AL543333 AL543333 LTI_NFL006_PL2... 1068 0.0
 gi|8750771|gb|BE207373.1|BE207373 ba65e04.x1 NIH_MGC_20 Hom... 1063 0.0
 gi|2993433|gb|AA883903.1|AA883903 aj13a01.s1 Soares_parathy... 1061 0.0
 gi|3255193|gb|AI034240.1|AI034240 ow09h12.x1 Soares_parathy... 1059 0.0
 gi|10350081|gb|BE891095.1|BE891095 601432208F1 NIH_MGC_72 H... 1053 0.0
 gi|8750775|gb|BE207377.1|BE207377 ba65f04.x1 NIH_MGC_20 Hom... 1035 0.0
 gi|5858190|gb|AW009412.1|AW009412 ws82c11.x1 NCI_CGAP_Co3 H... 1035 0.0
 gi|5546002|gb|AI871953.1|AI871953 wm53h05.x1 NCI_CGAP_Ut2 H... 1029 0.0
 gi|2324986|gb|AA554447.1|AA554447 nl14h10.s1 NCI_CGAP_Br2 H... 1027 0.0
 gi|4598887|gb|AI589839.1|AI589839 tm81a02.x1 NCI_CGAP_Bm25... 1017 0.0
 gi|6200155|gb|AW152255.1|AW152255 xg40e03.x1 NCI_CGAP_Ut1 H... 1015 0.0
 gi|2955773|gb|AA863294.1|AA863294 og93b12.s1 NCI_CGAP_Kid5 ... 1015 0.0
 gi|2690528|gb|AA689601.1|AA689601 nv66b12.s1 NCI_CGAP_GCB1 ... 1013 0.0
 gi|4834180|gb|AI669406.1|AI669406 ty32b07.x1 NCI_CGAP_Ut2 H... 1007 0.0
 gi|9866597|dbj|AV645583.1|AV645583 AV645583 GLC Homo sapien... 999 0.0
 gi|3001833|gb|AA886725.1|AA886725 oj52h06.s1 NCI_CGAP_Kid3 ... 999 0.0
 gi|13546020|gb|BG547368.1|BG547368 602574776F1 NIH_MGC_77 H... 997 0.0
 gi|13294752|gb|BG401304.1|BG401304 602465415F1 NIH_MGC_75 H... 997 0.0
 gi|10367680|gb|BE855542.1|BE855542 7g15h08.x1 NCI_CGAP_Bm2... 995 0.0
 gi|3086555|gb|AA932317.1|AA932317 oo70g12.s1 NCI_CGAP_GC4 H... 993 0.0
 gi|3057816|gb|AA917926.1|AA917926 ol76h08.s1 NCI_CGAP_Kid3 ... 991 0.0
 gi|9260891|gb|BE349038.1|BE349038 ht48c06.x1 NCI_CGAP_Mel15... 989 0.0
 gi|5110966|gb|AI742678.1|AI742678 wg44h01.x1 Soares_NSF_F8... 987 0.0
 gi|2411344|gb|AA595998.1|AA595998 nn64h09.s1 NCI_CGAP_Lar1 ... 987 0.0
 gi|11129201|gb|BF222024.1|BF222024 7p41b04.x1 NCI_CGAP_Pr28... 985 0.0
 gi|10891010|gb|BF085209.1|BF085209 MR3-GN0029-110900-004-h0... 983 0.0
 gi|1493027|gb|AA026818.1|AA026818 zk02b02.r1 Soares_pregnan... 983 0.0
 gi|5661371|gb|AI925407.1|AI925407 wo20h04.x1 NCI_CGAP_Pan1 ... 979 0.0
 gi|1320910|gb|W39201.1|W39201 zb35h02.r1 Soares_parathyroid... 979 0.0
 gi|4085247|gb|AI348041.1|AI348041 qp56b07.x1 NCI_CGAP_Co8 H... 975 0.0
 gi|13336418|gb|BG429912.1|BG429912 602499351F1 NIH_MGC_75 H... 969 0.0
 gi|2875248|gb|AA806498.1|AA806498 oc23f11.s1 NCI_CGAP_GCB1 ... 967 0.0
 gi|2156117|gb|AA443442.1|AA443442 zw94c04.r1 Soares_total f... 967 0.0
 gi|7412910|gb|AW651660.1|AW651660 ba17d12.y2 NIH_MGC_35 Hom... 965 0.0
 gi|3155485|gb|AA978039.1|AA978039 oq55e12.s1 NCI_CGAP_Kid5 ... 965 0.0
 gi|13340888|gb|BG434382.1|BG434382 602506384F1 NIH_MGC_79 H... 961 0.0
 gi|5592517|gb|AI887353.1|AI887353 wm39c04.x1 NCI_CGAP_Ut4 H... 961 0.0
 gi|3645373|gb|AI139401.1|AI139401 qc29a10.x1 Soares_pregnan... 961 0.0
 gi|4075385|gb|AI338458.1|AI338458 qq92d04.x1 Soares_total f... 959 0.0
 gi|14083867|gb|BG773214.1|BG773214 602721957F1 NIH_MGC_97 H... 955 0.0
 gi|3155394|gb|AA977948.1|AA977948 oq60h10.s1 NCI_CGAP_Kid6 ... 955 0.0
 gi|2155983|gb|AA443308.1|AA443308 zw94c04.s1 Soares_total f... 955 0.0
 gi|13337258|gb|BG430752.1|BG430752 602498512F1 NIH_MGC_75 H... 950 0.0

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gi|13964507|gb|BG697842.1|BG697842 602661052F1 NCI_CGAP_Skn... 948 0.0
 gi|3281636|gb|AI042442.1|AI042442 oy14a03.x1 Soares_senesce... 944 0.0
 gi|3179412|gb|AA992867.1|AA992867 ot76b02.s1 Soares_total_f... 940 0.0
 gi|6302223|gb|AW163190.1|AW163190 au92h07.y1 Schneider_feta... 934 0.0
 gi|3423724|gb|AI085301.1|AI085301 qf18g03.x1 NCI_CGAP_Bm25... 934 0.0
 gi|3017217|gb|AA890338.1|AA890338 aj94a11.s1 Soares_parathy... 932 0.0
 gi|12925499|emb|AL569800.1|AL569800 AL569800 LTI_NFL006_PL2... 928 0.0
 gi|10994439|dbj|AU133900.1|AU133900 AU133900 OVARC1 Homo sa... 928 0.0
 gi|11016587|dbj|AU155066.1|AU155066 AU155066 OVARC1 Homo sa... 926 0.0
 gi|3871543|gb|AI263340.1|AI263340 qq87h07.x1 Soares_total_f... 926 0.0
 gi|2359920|gb|AA582560.1|AA582560 nn55c06.s1 NCI_CGAP_Kid6 ... 920 0.0
 gi|1281745|gb|W07723.1|W07723 zb03b03.r1 Soares_fetal_lung... 914 0.0
 gi|2941643|gb|AA854105.1|AA854105 aj71a02.s1 Soares_parathy... 908 0.0
 gi|12897527|emb|AL555621.1|AL555621 AL555621 LTI_NFL006_PL2... 886 0.0
 gi|12875635|emb|AL543157.1|AL543157 AL543157 LTI_NFL006_PL2... 878 0.0
 gi|12873084|emb|AL541734.1|AL541734 AL541734 LTI_FL002_PL1 ... 876 0.0
 gi|9768144|gb|BE539499.1|BE539499 601060187F1 NIH_MGC_10 Ho... 874 0.0
 gi|14653349|gb|BI198328.1|BI198328 602761334F1 NIH_MGC_19 H... 868 0.0
 gi|11263603|gb|BF315365.1|BF315365 601902650F1 NIH_MGC_19 H... 868 0.0
 gi|12875843|emb|AL543365.1|AL543365 AL543365 LTI_NFL006_PL2... 864 0.0
 gi|14653113|gb|BI198092.1|BI198092 602762295F1 NIH_MGC_19 H... 852 0.0
 gi|5665179|gb|AI929215.1|AI929215 au58e05.x1 Schneider_feta... 848 0.0
 gi|3241454|gb|AI025841.1|AI025841 ow12b07.s1 Soares_parathy... 848 0.0

>gi|4507709|ref|NP_003304.1| tissue specific transplantation antigen P35B;
 p35B; tissue specific transplantation antigen 3; Tissue-specific transplantation
 antigen-3; GDP-4-keto-6-deoxy-D-mannose epimerase-reductase [Homo
 sapiens]

EST Search:

Sequences producing significant alignments:	(bits)	Value
gi 12883797 emb AL548615.1 AL548615	AL548615 LTI_NFL006_PL2...	1772 0.0
gi 12789331 emb AL525838.1 AL525838	AL525838 LTI_NFL003_NBC...	1752 0.0
gi 13905346 gb BG673954.1 BG673954	602620125F1 NCI_CGAP_Skn...	1649 0.0
gi 12792036 emb AL528543.1 AL528543	AL528543 LTI_NFL001_NBC...	1628 0.0
gi 12789378 emb AL525885.1 AL525885	AL525885 LTI_NFL003_NBC...	1620 0.0
gi 14060819 gb BG750166.1 BG750166	602708953F1 NIH_MGC_43 H...	1580 0.0
gi 13584011 gb BG576358.1 BG576358	602597077F1 NIH_MGC_87 H...	1576 0.0
gi 14808128 gb BI255073.1 BI255073	602975916F1 NIH_MGC_12 H...	1532 0.0
gi 12932173 emb AL573182.1 AL573182	AL573182 LTI_NFL006_PL2...	1520 0.0
gi 14170351 gb BG822764.1 BG822764	602725927F1 NIH_MGC_15 H...	1501 0.0
gi 13582297 gb BG574644.1 BG574644	602596643F1 NIH_MGC_87 H...	1491 0.0
gi 14504443 gb BI086113.1 BI086113	602870179T1 NIH_MGC_98 H...	1465 0.0
gi 13031499 gb BG282607.1 BG282607	602406274F1 NIH_MGC_91 H...	1425 0.0
gi 13987738 gb BG709420.1 BG709420	602673472F1 NIH_MGC_96 H...	1419 0.0
gi 11974033 gb BF688625.1 BF688625	602185261F1 NIH_MGC_43 H...	1390 0.0
gi 4997719 gb AI707943.1 AI707943	as34g07.x1 Barstead aorta...	1372 0.0
gi 10153576 gb BE739584.1 BE739584	601556554T1 NIH_MGC_58 H...	1362 0.0
gi 14050417 gb BG739764.1 BG739764	602630479F1 NCI_CGAP_Skn...	1356 0.0
gi 12347310 gb BF980095.1 BF980095	602288690T1 NIH_MGC_97 H...	1338 0.0
gi 11974420 gb BF689012.1 BF689012	602185261T1 NIH_MGC_43 H...	1330 0.0
gi 14000222 gb BG721035.1 BG721035	602692740F1 NIH_MGC_97 H...	1326 0.0
gi 12912349 emb AL563185.1 AL563185	AL563185 LTI_NFL001_NBC...	1298 0.0
gi 6473452 gb AW194598.1 AW194598	xn42b05.x1 NCI_CGAP_Kid11...	1285 0.0

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gi|12384107|gb|BF981295.1|BF981295 602308539F1 NIH_MGC_88 H... 1283 0.0
 gi|5745797|gb|AI953487.1|AI953487 wq29c04.x1 NCI_CGAP_Kid11... 1281 0.0
 gi|12418870|gb|BG029773.1|BG029773 602296507F1 NIH_MGC_87 H... 1279 0.0
 gi|10812855|gb|BF058959.1|BF058959 7k36d11.x1 NCI_CGAP_Ov18... 1279 0.0
 gi|5037850|gb|AI720594.1|AI720594 as70e02.x1 Barstead colon... 1269 0.0
 gi|13129704|gb|BG323267.1|BG323267 602421494F1 NIH_MGC_14 H... 1267 0.0
 gi|14177350|gb|BG829763.1|BG829763 602764240F1 NIH_MGC_42 H... 1265 0.0
 gi|13404586|gb|BG472311.1|BG472311 602513954F1 NIH_MGC_16 H... 1259 0.0
 gi|9346533|gb|BE410083.1|BE410083 601302232F1 NIH_MGC_21 Ho... 1259 0.0
 gi|4684533|gb|AI633203.1|AI633203 tz07e05.x1 NCI_CGAP_Ut1 H... 1259 0.0
 gi|14677298|gb|BI223854.1|BI223854 602942773F1 NIH_MGC_12 H... 1255 0.0
 gi|4764562|gb|AI660979.1|AI660979 wf20f11.x1 Soares_Dieckgr... 1253 0.0
 gi|13329564|gb|BG423058.1|BG423058 602450261F1 NIH_MGC_14 H... 1247 0.0
 gi|11250503|gb|BF303843.1|BF303843 601886640F2 NIH_MGC_17 H... 1241 0.0
 gi|5593865|gb|AI888701.1|AI888701 wn34f08.x1 NCI_CGAP_Gas4 ... 1231 0.0
 gi|8905436|gb|BE218030.1|BE218030 hv34e04.x1 NCI_CGAP_Lu24 ... 1227 0.0
 gi|11971550|gb|BF686142.1|BF686142 602143377F1 NIH_MGC_46 H... 1225 0.0
 gi|11130839|gb|BF223661.1|BF223661 7q78e07.x1 NCI_CGAP_Lu24... 1223 0.0
 gi|14503965|gb|BI085635.1|BI085635 602870179F1 NIH_MGC_98 H... 1217 0.0
 gi|12342081|gb|BF974866.1|BF974866 602245527F1 NIH_MGC_48 H... 1207 0.0
 gi|12339751|gb|BF972536.1|BF972536 602242932F1 NIH_MGC_46 H... 1203 0.0
 gi|10316825|gb|BE868049.1|BE868049 601444153F1 NIH_MGC_65 H... 1195 0.0
 gi|13342831|gb|BG436325.1|BG436325 602508768F1 NIH_MGC_79 H... 1193 0.0
 gi|13459197|gb|BG497680.1|BG497680 601859714F1 NIH_MGC_60 H... 1187 0.0
 gi|13414805|gb|BG482526.1|BG482526 602527765F1 NIH_MGC_21 H... 1185 0.0
 gi|14294354|gb|BG913878.1|BG913878 602810511F1 NCI_CGAP_Bm... 1183 0.0
 gi|13451814|gb|BG490304.1|BG490304 602519301F1 NIH_MGC_18 H... 1181 0.0
 gi|7704180|gb|AW772117.1|AW772117 hn67f10.x1 NCI_CGAP_Kid11... 1172 0.0
 gi|12762969|gb|BG253153.1|BG253153 602363796F1 NIH_MGC_90 H... 1170 0.0
 gi|6590433|gb|AW247440.1|AW247440 2819332.5prime NIH_MGC_7 ... 1162 0.0
 gi|12603972|gb|BG110466.1|BG110466 602278881F1 NIH_MGC_86 H... 1160 0.0
 gi|12426963|gb|BG034049.1|BG034049 602300978F1 NIH_MGC_87 H... 1158 0.0
 gi|11443051|gb|BF431015.1|BF431015 7o18a05.x1 NCI_CGAP_Kid1... 1156 0.0
 gi|9339602|gb|BE394237.1|BE394237 601311549F1 NIH_MGC_44 Ho... 1146 0.0
 gi|6361205|gb|AI174814.1|AI174814 HA2535 Human fetal liver ... 1138 0.0
 gi|10389807|gb|BE901034.1|BE901034 601674169F1 NIH_MGC_21 H... 1130 0.0
 gi|2933350|gb|AA845591.1|AA845591 ak04g03.s1 Soares_parathy... 1106 0.0
 gi|12725613|gb|BG230580.1|BG230580 naf40f04.x1 Soares_NPBMC... 1104 0.0
 gi|11263814|gb|BF315551.1|BF315551 601899689F1 NIH_MGC_19 H... 1104 0.0
 gi|9346913|gb|BE410463.1|BE410463 601302064F1 NIH_MGC_21 Ho... 1102 0.0
 gi|4851563|gb|AI671832.1|AI671832 wb34e03.x1 NCI_CGAP_GC6 H... 1102 0.0
 gi|2409463|gb|AA594113.1|AA594113 nm81f09.s1 NCI_CGAP_Co9 H... 1102 0.0
 gi|6590289|gb|AW247296.1|AW247296 2819332.3prime NIH_MGC_7 ... 1096 0.0
 gi|14252587|gb|BG875594.1|BG875594 RC0-CN0025-010200-012-h0... 1088 0.0
 gi|6660479|gb|AW273449.1|AW273449 xr39g05.x1 NCI_CGAP_Ut4 H... 1068 0.0
 gi|12344867|gb|BF977652.1|BF977652 602147454F1 NIH_MGC_62 H... 1059 0.0
 gi|5767006|gb|AI970180.1|AI970180 wr08c02.x1 NCI_CGAP_Lu19 ... 1045 0.0
 gi|9154860|gb|BE279864.1|BE279864 601157218F1 NIH_MGC_21 Ho... 1043 0.0
 gi|6043887|gb|AW088082.1|AW088082 xc97c12.x1 NCI_CGAP_Bm35... 1041 0.0
 gi|5660644|gb|AI924680.1|AI924680 wn74c04.x1 NCI_CGAP_Ut1 H... 1041 0.0
 gi|7320037|gb|AW614851.1|AW614851 hh67d09.x1 NCI_CGAP_GU1 H... 1005 0.0
 gi|14374439|gb|BG956268.1|BG956268 QV3-CT0616-190201-553-f1... 993 0.0
 gi|5368755|gb|AI803283.1|AI803283 tc17c01.x1 Soares_NhHMPu... 989 0.0
 gi|14569068|gb|BI118167.1|BI118167 602867450F1 NIH_MGC_7 Ho... 977 0.0
 gi|7319620|gb|AW614434.1|AW614434 hg83c06.x1 NCI_CGAP_Kid11... 973 0.0
 gi|7044918|gb|AW474812.1|AW474812 xy20e11.x1 NCI_CGAP_Ut4 H... 973 0.0
 gi|11983366|gb|BF697958.1|BF697958 602130044F1 NIH_MGC_56 H... 963 0.0

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gi|7376393|gb|AW629603.1|AW629603 hh67d09.y1 NCI_CGAP_GU1 H... 961 0.0
gi|12908174|emb|AL561089.1|AL561089 AL561089 LTI_NFL010_BC2... 957 0.0
gi|3214460|gb|AI004950.1|AI004950 ot98b10.x1 Soares_total f... 957 0.0
gi|3756666|gb|AI204060.1|AI204060 qe77h04.x1 Soares_fetal l... 944 0.0
gi|10964119|gb|BF125079.1|BF125079 601762687F1 NIH_MGC_20 H... 936 0.0
gi|13032697|gb|BG283127.1|BG283127 602406778F1 NIH_MGC_91 H... 932 0.0
gi|13410684|gb|BG478405.1|BG478405 602523747F1 NIH_MGC_20 H... 928 0.0
gi|13030280|gb|BG281355.1|BG281355 602401842F1 NIH_MGC_20 H... 926 0.0
gi|5101285|gb|AI739304.1|AI739304 wi30c03.x1 NCI_CGAP_Co16 ... 924 0.0
gi|3754557|gb|AI201951.1|AI201951 qs77a10.x1 NCI_CGAP_Pr28 ... 922 0.0
gi|8140882|gb|AW951214.1|AW951214 EST363284 MAGE resequence... 920 0.0
gi|12042881|gb|BF726970.1|BF726970 by14h02.y1 Human Lens cD... 918 0.0
gi|7150886|gb|AW512808.1|AW512808 xm04b07.x1 NCI_CGAP_Ut1 H... 916 0.0
gi|9334131|gb|BE388766.1|BE388766 601283865F1 NIH_MGC_44 Ho... 904 0.0
gi|4149912|gb|AI371159.1|AI371159 ta09b06.x1 Soares_total f... 892 0.0
gi|14505970|gb|BI087640.1|BI087640 602852161F1 NIH_MGC_10 H... 890 0.0
gi|4662870|gb|AI626070.1|AI626070 ar87f06.x1 Barstead colon... 890 0.0
gi|3693002|gb|AI160843.1|AI160843 qb65e01.x1 Soares_fetal_h... 888 0.0
gi|3400763|gb|AI074119.1|AI074119 oz54c02.x1 Soares_senesce... 884 0.0
gi|3735843|gb|AI185205.1|AI185205 qe47a05.x1 Soares_fetal l... 882 0.0

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Table 2: Mouse-SDRs derived from non redundant NCBI Database
EST Searches in human tissue

>gi|5668733|dbj|BAA82656.1| UBE-1a [Mus musculus]

EST Search:

Organ: eye

Tissue type: retinoblastoma

Organ: brain

Tissue type: hippocampus

Organ: ovary

Tissue type: adenocarcinoma cell line

Organ: bone

Tissue type: osteosarcoma, cell line

Human Sequences producing significant alignments:

(bits) Value

gi 9124275 gb BE253854.1 BE253854	601112818F1 NIH_MGC_16 Ho...	454	e-125
gi 13967002 gb BG699072.1 BG699072	602678713F1 NIH_MGC_95 H...	430	e-118
gi 10156435 gb BE742443.1 BE742443	601575210F1 NIH_MGC_9 Ho...	428	e-117
gi 12604238 gb BG110732.1 BG110732	602279029F1 NIH_MGC_86 H...	418	e-114
gi 13401922 gb BG469647.1 BG469647	602534103F1 NIH_MGC_15 H...	412	e-112
gi 12609069 gb BG115563.1 BG115563	602317253F1 NIH_MGC_88 H...	412	e-112
gi 9186637 gb BE302889.1 BE302889	ba70g10.y1 NIH_MGC_20 Hom...	406	e-111
gi 12761697 gb BG251881.1 BG251881	602364502F1 NIH_MGC_90 H...	402	e-109
gi 14809963 gb BI255993.1 BI255993	602976353F1 NIH_MGC_12 H...	394	e-107
gi 12678524 gb BG171821.1 BG171821	602322603F1 NIH_MGC_89 H...	393	e-106
gi 10160188 gb BE746196.1 BE746196	601578644F1 NIH_MGC_9 Ho...	391	e-106
gi 12687397 gb BG180694.1 BG180694	602329481F1 NIH_MGC_91 H...	373	e-100
gi 13336094 gb BG429588.1 BG429588	602501268F1 NIH_MGC_75 H...	371	e-100
gi 8144363 gb AW954680.1 AW954680	EST366750 MAGE resequence...	371	e-100
gi 13999085 gb BG719898.1 BG719898	602691430F1 NIH_MGC_97 H...	357	7e-96
gi 11953928 gb BF680033.1 BF680033	602154752F1 NIH_MGC_83 H...	357	7e-96
gi 13972135 gb BG701616.1 BG701616	602682503F1 NIH_MGC_95 H...	345	3e-92
gi 10348906 gb BE890514.1 BE890514	601431585F1 NIH_MGC_72 H...	345	3e-92
gi 13969001 gb BG700048.1 BG700048	602681055F1 NIH_MGC_95 H...	343	1e-91
gi 9770617 gb BE541972.1 BE541972	601064273F1 NIH_MGC_10 Ho...	331	4e-88

>gi|5668735|dbj|BAA82657.1| UBE-1b [Mus musculus]

EST Search:

Organ: eye

Tissue type: retinoblastoma

Organ: ovary

Tissue type: adenocarcinoma cell line

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Organ: brain
Tissue type: hippocampus

Organ: colon
Tissue type: adenocarcinoma cell line

Human Sequences producing significant alignments:	(bits)	Value
gi 9124275 gb BE253854.1 BE253854	601112818F1 NIH_MGC_16 Ho...	438 e-120
gi 10156435 gb BE742443.1 BE742443	601575210F1 NIH_MGC_9 Ho...	412 e-112
gi 13967002 gb BG699072.1 BG699072	602678713F1 NIH_MGC_95 H...	400 e-109
gi 13401922 gb BG469647.1 BG469647	602534103F1 NIH_MGC_15 H...	396 e-108
gi 12604238 gb BG110732.1 BG110732	602279029F1 NIH_MGC_86 H...	389 e-105
gi 12761697 gb BG251881.1 BG251881	602364502F1 NIH_MGC_90 H...	387 e-105
gi 12609069 gb BG115563.1 BG115563	602317253F1 NIH_MGC_88 H...	383 e-103
gi 14809963 gb BI255993.1 BI255993	602976353F1 NIH_MGC_12 H...	379 e-102
gi 9186637 gb BE302889.1 BE302889	ba70g10.y1 NIH_MGC_20 Hom...	377 e-102
gi 10160188 gb BE746196.1 BE746196	601578644F1 NIH_MGC_9 Ho...	375 e-101
gi 12678524 gb BG171821.1 BG171821	602322603F1 NIH_MGC_89 H...	369 2e-99
gi 8144363 gb AW954680.1 AW954680	EST366750 MAGE resequence...	355 3e-95
gi 12687397 gb BG180694.1 BG180694	602329481F1 NIH_MGC_91 H...	349 2e-93
gi 13336094 gb BG429588.1 BG429588	602501268F1 NIH_MGC_75 H...	341 4e-91
gi 13999085 gb BG719898.1 BG719898	602691430F1 NIH_MGC_97 H...	327 7e-87
gi 11953928 gb BF680033.1 BF680033	602154752F1 NIH_MGC_83 H...	327 7e-87
gi 10348906 gb BE890514.1 BE890514	601431585F1 NIH_MGC_72 H...	323 1e-85
gi 13972135 gb BG701616.1 BG701616	602682503F1 NIH_MGC_95 H...	315 3e-83
gi 14053553 gb BG742900.1 BG742900	602632481F1 NCI_CGAP_Skn...	313 1e-82
gi 9770617 gb BE541972.1 BE541972	601064273F1 NIH_MGC_10 Ho...	305 2e-80

>gi|12835589|dbj|BAB23296.1| putative [Mus musculus]

EST Search:

Organ: eye
Tissue type: retinoblastoma

Organ: brain
Tissue type: hippocampus

Organ: ovary
Tissue type: adenocarcinoma cell line

Organ: bone
Tissue type: osteosarcoma, cell line

Human Sequences producing significant alignments:	(bits)	Value
gi 9124275 gb BE253854.1 BE253854	601112818F1 NIH_MGC_16 Ho...	454 e-125
gi 13967002 gb BG699072.1 BG699072	602678713F1 NIH_MGC_95 H...	430 e-118
gi 10156435 gb BE742443.1 BE742443	601575210F1 NIH_MGC_9 Ho...	428 e-117
gi 12604238 gb BG110732.1 BG110732	602279029F1 NIH_MGC_86 H...	418 e-114
gi 13401922 gb BG469647.1 BG469647	602534103F1 NIH_MGC_15 H...	412 e-112
gi 12609069 gb BG115563.1 BG115563	602317253F1 NIH_MGC_88 H...	412 e-112

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gi|9186637|gb|BE302889.1|BE302889 ba70g10.y1 NIH_MGC_20 Hom... 406 e-111

gi|12761697|gb|BG251881.1|BG251881 602364502F1 NIH_MGC_90 H... 402 e-109
 gi|14809963|gb|BI255993.1|BI255993 602976353F1 NIH_MGC_12 H... 394 e-107
 gi|12678524|gb|BG171821.1|BG171821 602322603F1 NIH_MGC_89 H... 393 e-106
 gi|10160188|gb|BE746196.1|BE746196 601578644F1 NIH_MGC_9 Ho... 391 e-106
 gi|12687397|gb|BG180694.1|BG180694 602329481F1 NIH_MGC_91 H... 373 e-100
 gi|13336094|gb|BG429588.1|BG429588 602501268F1 NIH_MGC_75 H... 371 e-100
 gi|8144363|gb|AW954680.1|AW954680 EST366750 MAGE resequence... 371 e-100
 gi|13999085|gb|BG719898.1|BG719898 602691430F1 NIH_MGC_97 H... 357 7e-96
 gi|11953928|gb|BF680033.1|BF680033 602154752F1 NIH_MGC_83 H... 357 7e-96
 gi|13972135|gb|BG701616.1|BG701616 602682503F1 NIH_MGC_95 H... 345 3e-92
 gi|10348906|gb|BE890514.1|BE890514 601431585F1 NIH_MGC_72 H... 345 3e-92
 gi|13969001|gb|BG700048.1|BG700048 602681055F1 NIH_MGC_95 H... 343 1e-91
 gi|9770617|gb|BE541972.1|BE541972 601064273F1 NIH_MGC_10 Ho... 331 4e-88

>gi|12848558|dbj|BAB27997.1| putative [Mus musculus]

EST Search:

Organ: eye
 Tissue type: retinoblastoma

Organ: ovary
 Tissue type: adenocarcinoma cell line

Organ: brain
 Tissue type: hippocampus

Organ: colon
 Tissue type: adenocarcinoma cell line

Human Sequences producing significant alignments: (bits) Value

gi|9124275|gb|BE253854.1|BE253854 601112818F1 NIH_MGC_16 Ho... 454 e-125
 gi|10156435|gb|BE742443.1|BE742443 601575210F1 NIH_MGC_9 Ho... 428 e-117
 gi|13967002|gb|BG699072.1|BG699072 602678713F1 NIH_MGC_95 H... 422 e-115
 gi|13401922|gb|BG469647.1|BG469647 602534103F1 NIH_MGC_15 H... 412 e-112
 gi|12604238|gb|BG110732.1|BG110732 602279029F1 NIH_MGC_86 H... 410 e-112
 gi|12609069|gb|BG115563.1|BG115563 602317253F1 NIH_MGC_88 H... 404 e-110
 gi|12761697|gb|BG251881.1|BG251881 602364502F1 NIH_MGC_90 H... 402 e-109
 gi|9186637|gb|BE302889.1|BE302889 ba70g10.y1 NIH_MGC_20 Hom... 398 e-108
 gi|14809963|gb|BI255993.1|BI255993 602976353F1 NIH_MGC_12 H... 394 e-107
 gi|10160188|gb|BE746196.1|BE746196 601578644F1 NIH_MGC_9 Ho... 391 e-106
 gi|12678524|gb|BG171821.1|BG171821 602322603F1 NIH_MGC_89 H... 385 e-104
 gi|8144363|gb|AW954680.1|AW954680 EST366750 MAGE resequence... 371 e-100
 gi|12687397|gb|BG180694.1|BG180694 602329481F1 NIH_MGC_91 H... 365 5e-98
 gi|13336094|gb|BG429588.1|BG429588 602501268F1 NIH_MGC_75 H... 363 2e-97
 gi|13999085|gb|BG719898.1|BG719898 602691430F1 NIH_MGC_97 H... 349 3e-93
 gi|11953928|gb|BF680033.1|BF680033 602154752F1 NIH_MGC_83 H... 349 3e-93
 gi|13972135|gb|BG701616.1|BG701616 602682503F1 NIH_MGC_95 H... 337 1e-89
 gi|10348906|gb|BE890514.1|BE890514 601431585F1 NIH_MGC_72 H... 337 1e-89
 gi|13969001|gb|BG700048.1|BG700048 602681055F1 NIH_MGC_95 H... 335 4e-89
 gi|14053553|gb|BG742900.1|BG742900 602632481F1 NCI_CGAP_Skn... 329 3e-87

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>gi|12850643|dbj|BAB28800.1| putative [Mus musculus]

EST Search:

Tissue type: T cells from T cell leukemia

Tissue type: T cells from T cell leukemia

Tissue type: placenta

Organ: brain

Tissue type: neuroblastoma

Organ: brain

Tissue type: neuroblastoma cells

Human Sequences producing significant alignments:

(bits) Value

gi 12903888 emb AL558907.1 AL558907	AL558907 LTI_NFL008_TC2...	613	e-173
gi 12900345 emb AL557084.1 AL557084	AL557084 LTI_FL012_TC1 ...	613	e-173
gi 12897788 emb AL555756.1 AL555756	AL555756 LTI_NFL006_PL2...	613	e-173
gi 13515355 gb BG519629.1 BG519629	602578744F1 NIH_MGC_19 H...	611	e-172
gi 12952470 emb AL583473.1 AL583473	AL583473 LTI_NFL004_NBC...	609	e-172
gi 12783279 emb AL519786.1 AL519786	AL519786 LTI_NFL004_NBC...	607	e-171
gi 13515189 gb BG519532.1 BG519532	602578613F1 NIH_MGC_19 H...	593	e-167
gi 12903886 emb AL558906.1 AL558906	AL558906 LTI_NFL008_TC2...	593	e-167
gi 12900344 emb AL557083.1 AL557083	AL557083 LTI_FL012_TC1 ...	593	e-167
gi 12790972 emb AL527479.1 AL527479	AL527479 LTI_NFL003_NBC...	583	e-164
gi 14177068 gb BG829481.1 BG829481	602763779F1 NIH_MGC_42 H...	571	e-160
gi 13583928 gb BG576275.1 BG576275	602595778F1 NIH_MGC_87 H...	565	e-158
gi 10157401 gb BE743409.1 BE743409	601573650F1 NIH_MGC_9 Ho...	565	e-158
gi 10161376 gb BE747384.1 BE747384	601580434F1 NIH_MGC_9 Ho...	561	e-157
gi 14177225 gb BG829638.1 BG829638	602763994F1 NIH_MGC_42 H...	557	e-156
gi 13980226 gb BG705661.1 BG705661	602668874F1 NIH_MGC_96 H...	543	e-152
gi 12786487 emb AL522994.1 AL522994	AL522994 LTI_NFL003_NBC...	541	e-151
gi 9806674 gb BE562954.1 BE562954	601336395F1 NIH_MGC_44 Ho...	539	e-151
gi 12340198 gb BF972983.1 BF972983	602241285F1 NIH_MGC_46 H...	537	e-150
gi 14060190 gb BG749537.1 BG749537	602707687F1 NIH_MGC_43 H...	535	e-150

>gi|12851759|dbj|BAB29156.1| putative [Mus musculus]

EST Search:

Organ: colon

Tissue type: adenocarcinoma cell line

Organ: pancreas

Tissue type: adenocarcinoma

Organ: lung

Tissue type: small cell carcinoma

Cell line: MGC3

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Organ: ovary
Tissue type: fibrotheoma

Human Sequences producing significant alignments: (bits) Value

gi|13135151|gb|BG328713.1|BG328713 602427988F1 NIH_MGC_15 H... 369 1e-99
gi|10149412|gb|BE735420.1|BE735420 601304204F1 NIH_MGC_39 H... 365 2e-98
gi|9141043|gb|BE267452.1|BE267452 601189745F2 NIH_MGC_7 Hom... 359 1e-96
gi|10984835|gb|BF115433.1|BF115433 7n81h06.x1 NCI_CGAP_Ov18... 355 2e-95
gi|10700778|gb|BF000503.1|BF000503 7h32a01.x1 NCI_CGAP_Co16... 345 2e-92
gi|6197433|gb|AW149537.1|AW149537 xf39b12.x1 NCI_CGAP_Bm50... 341 3e-91
gi|14080921|gb|BG770268.1|BG770268 602744858F1 NIH_MGC_49 H... 339 1e-90
gi|13411959|gb|BG479680.1|BG479680 602527142F1 NIH_MGC_21 H... 339 1e-90
gi|10940810|gb|BF111120.1|BF111120 7n43g10.x1 NCI_CGAP_Lu24... 337 5e-90
gi|9510747|gb|BE464972.1|BE464972 hv76a11.x1 NCI_CGAP_Lu24 ... 335 2e-89
gi|13134589|gb|BG328151.1|BG328151 602427216F1 NIH_MGC_15 H... 331 3e-88
gi|6710858|gb|AW301181.1|AW301181 xs57d11.x1 NCI_CGAP_Kid11... 331 3e-88
gi|11450749|gb|BF438232.1|BF438232 7q68g12.x1 NCI_CGAP_Lu24... 327 5e-87
gi|6709918|gb|AW300318.1|AW300318 xs59g06.x1 NCI_CGAP_Kid11... 327 5e-87
gi|3056175|gb|AA916783.1|AA916783 on10d05.s1 NCI_CGAP_Lu5 H... 325 2e-86
gi|9126816|gb|BE256444.1|BE256444 601108430F1 NIH_MGC_16 Ho... 323 8e-86
gi|4985638|gb|AI697738.1|AI697738 we16g07.x1 NCI_CGAP_Lu24 ... 321 3e-85
gi|3675611|gb|AI147929.1|AI147929 qb38g05.x1 Soares_pregnan... 319 1e-84
gi|13705885|gb|BG184198.1|BG184198 RST3119 Athersys RAGE Li... 313 8e-83
gi|9333920|gb|BE388555.1|BE388555 601281843F1 NIH_MGC_44 Ho... 313 8e-83

>gi|12861668|dbj|BAB32258.1| putative [Mus musculus]

EST Search:

Tissue type: corresponding non cancerous liver tissue
Develop. stage: Adult

Organ: kidney

Organ: pancreas
Tissue type: epithelioid carcinoma cell line

Organ: testis

Organ: brain
Tissue type: hippocampus

Human Sequences producing significant alignments: (bits) Value

gi|9875702|dbj|AV654688.1|AV654688 AV654688 GLC Homo sapien... 168 2e-39
gi|7702359|gb|AW770318.1|AW770318 hi78e09.x1 NCI_CGAP_Kid13... 123 1e-25
gi|14178068|gb|BG830481.1|BG830481 602767043F1 NIH_MGC_42 H... 121 5e-25
gi|13999085|gb|BG719898.1|BG719898 602691430F1 NIH_MGC_97 H... 121 5e-25
gi|13967002|gb|BG699072.1|BG699072 602678713F1 NIH_MGC_95 H... 121 5e-25
gi|12609069|gb|BG115563.1|BG115563 602317253F1 NIH_MGC_88 H... 121 5e-25
gi|12604238|gb|BG110732.1|BG110732 602279029F1 NIH_MGC_86 H... 121 5e-25
gi|9186637|gb|BE302889.1|BE302889 ba70g10.y1 NIH_MGC_20 Hom... 121 5e-25
gi|8144363|gb|AW954680.1|AW954680 EST366750 MAGE resequence... 121 5e-25
gi|1298897|gb|W22050.1|W22050 61A4 Human retina cDNA Tsp509... 121 5e-25

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gi|10348906|gb|BE890514.1|BE890514 601431585F1 NIH_MGC_72 H... 115 3e-23
 gi|13336094|gb|BG429588.1|BG429588 602501268F1 NIH_MGC_75 H... 113 1e-22
 gi|13527202|gb|BG535657.1|BG535657 602563366F1 NIH_MGC_77 H... 111 5e-22
 gi|13523981|gb|BG532442.1|BG532442 602561968F1 NIH_MGC_61 H... 111 5e-22
 gi|1960040|gb|AA307691.1|AA307691 EST178577 Colon carcinoma... 111 5e-22
 gi|9186545|gb|BE302797.1|BE302797 ba69a06.y1 NIH_MGC_20 Hom... 109 2e-21
 gi|13972135|gb|BG701616.1|BG701616 602682503F1 NIH_MGC_95 H... 107 8e-21
 gi|13969001|gb|BG700048.1|BG700048 602681055F1 NIH_MGC_95 H... 107 8e-21
 gi|9770617|gb|BE541972.1|BE541972 601064273F1 NIH_MGC_10 Ho... 107 8e-21
 gi|13336068|gb|BG429562.1|BG429562 602501238F1 NIH_MGC_75 H... 105 3e-20

>gi|14318640|gb|AAH09118.1|AAH09118 Unknown (protein for MGC:6971) [Mus musculus]

EST Search:

Organ: lung
 Tissue type: carcinoid

Tissue type: Adrenal gland

Organ: liver
 Tissue type: adenocarcinoma, cell line

Organ: lymph node
 Tissue type: follicular lymphoma

Human Sequences producing significant alignments: (bits) Value

gi|10940429|gb|BF110739.1|BF110739 7n56b09.x1 NCI_CGAP_Lu24... 367 5e-99
 gi|10721718|dbj|AV704400.1|AV704400 AV704400 ADB Homo sapie... 341 3e-91
 gi|12613045|gb|BG119539.1|BG119539 602347238F1 NIH_MGC_90 H... 305 2e-80
 gi|1472212|gb|AA011185.1|AA011185 ze22d01.s1 Soares_fetal_h... 293 6e-77
 gi|3838022|gb|AI242625.1|AI242625 qu37c10.x1 NCI_CGAP_Lym5 ... 212 2e-52
 gi|14166353|gb|BG818766.1|BG818766 602779096F2 NCI_CGAP_Bm... 180 6e-43
 gi|13708617|gb|BG186930.1|BG186930 RST5907 Athersys RAGE Li... 153 1e-34
 gi|4331367|gb|AI469277.1|AI469277 tm07g05.x1 NCI_CGAP_Co14 ... 153 1e-34
 gi|3677291|gb|AI148822.1|AI148822 qc65e11.x1 Soares_placent... 153 1e-34
 gi|3145479|gb|AA969966.1|AA969966 op60e04.s1 Soares_NFL_T_G... 153 1e-34
 gi|13707564|gb|BG185877.1|BG185877 RST4830 Athersys RAGE Li... 151 6e-34
 gi|10897098|gb|BF091388.1|BF091388 CM0-TN0034-150900-551-e0... 145 3e-32
 gi|5744726|gb|AI952416.1|AI952416 wx73e03.x1 NCI_CGAP_Ov38 ... 145 3e-32
 gi|8166900|gb|AW975682.1|AW975682 EST387791 MAGE resequence... 127 8e-27
 gi|3040766|gb|AA905643.1|AA905643 oj97e05.s1 Soares_NFL_T_G... 127 8e-27
 gi|14051179|gb|BG740526.1|BG740526 602633034F1 NCI_CGAP_Skn... 115 3e-23
 gi|12610022|gb|BG116516.1|BG116516 602317614F1 NIH_MGC_88 H... 113 1e-22
 gi|2767868|gb|AA736634.1|AA736634 nw53d05.s1 NCI_CGAP_Ew1 H... 113 1e-22
 gi|2752111|gb|AA730907.1|AA730907 nw50c08.s1 NCI_CGAP_Ew1 H... 96 3e-17
 gi|8015591|gb|AW877247.1|AW877247 PM3-PT0039-010300-001-b06... 80 2e-12

>gi|13097495|gb|AAH03479.1|AAH03479 Unknown (protein for MGC:6908) [Mus musculus]

EST Search:

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Organ: skin
Tissue type: melanotic melanoma, high MDR (cell line)

Organ: placenta

Organ: ovary
Tissue type: adenocarcinoma cell line

Organ: lung
Tissue type: small cell carcinoma

Human Sequences producing significant alignments: (bits) Value

gi|14073190|gb|BG762537.1|BG762537 602733994F1 NIH_MGC_49 H... 339 1e-90
gi|844959|gb|R71442.1|R71442 yi51f01.r1 Soares placenta Nb2... 321 3e-85
gi|10156033|gb|BE742041.1|BE742041 601594721F1 NIH_MGC_9 Ho... 313 8e-83
gi|10219393|gb|BE798195.1|BE798195 601582662F1 NIH_MGC_7 Ho... 297 4e-78
gi|10216541|gb|BE795343.1|BE795343 601586662F1 NIH_MGC_7 Ho... 297 4e-78
gi|10150854|gb|BE736951.1|BE736951 601306912F1 NIH_MGC_39 H... 297 4e-78
gi|9331772|gb|BE386407.1|BE386407 601273578F1 NIH_MGC_20 Ho... 297 4e-78
gi|1146469|gb|N28234.1|N28234 EST51e15 WATM1 Homo sapiens c... 283 7e-74
gi|9334357|gb|BE388992.1|BE388992 601284814F1 NIH_MGC_44 Ho... 281 3e-73
gi|9148949|gb|BE274012.1|BE274012 601104628F1 NIH_MGC_14 Ho... 270 1e-69
gi|6926374|gb|AW407317.1|AW407317 UI-HF-BLO-adj-e-12-0-UI.r... 270 1e-69
gi|1383218|gb|W73084.1|W73084 zd54a11.r1 Soares fetal heart... 268 4e-69
gi|9335068|gb|BE389703.1|BE389703 601281945F1 NIH_MGC_44 Ho... 244 6e-62
gi|5674161|gb|AI935291.1|AI935291 wp16e06.x1 NCI_CGAP_Lu19 ... 244 6e-62
gi|12678574|gb|BG171871.1|BG171871 602322675F1 NIH_MGC_89 H... 238 4e-60
gi|5920966|gb|AW055263.1|AW055263 wz16b09.x1 NCI_CGAP_Ut4 H... 236 1e-59
gi|1166345|gb|N42314.1|N42314 yy06e04.r1 Soares melanocyte ... 220 8e-55
gi|1319356|gb|W37623.1|W37623 zc12d10.r1 Soares parathyroid... 212 2e-52
gi|10265680|gb|BE833302.1|BE833302 QV3-OT0065-280600-250-c0... 206 1e-50
gi|13409767|gb|BG477488.1|BG477488 602521540F1 NIH_MGC_20 H... 202 2e-49

>gi|13278172|gb|AAH03930.1|AAH03930 RIKEN cDNA 1110029G07
gene [Mus musculus]

EST Search:

Organ: skin
Tissue type: melanotic melanoma

Organ: pancreas
Tissue type: adenocarcinoma

Organ: brain
Tissue type: hippocampus

Organ: ovary
Tissue type: adenocarcinoma cell line

Human Sequences producing significant alignments: (bits) Value

gi|10355896|gb|BE893982.1|BE893982 601437772F1 NIH_MGC_72 H... 529 e-148

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gi|9759837|gb|BE531278.1|BE531278 601278395F1 NIH_MGC_39 Ho... 523 e-146
 gi|13979738|gb|BG705419.1|BG705419 602685545F1 NIH_MGC_95 H... 519 e-145
 gi|10157906|gb|BE743914.1|BE743914 601577970F1 NIH_MGC_9 Ho... 498 e-138
 gi|9897009|gb|BE615410.1|BE615410 601280872F1 NIH_MGC_39 Ho... 468 e-129
 gi|9896295|gb|BE614698.1|BE614698 601281684F1 NIH_MGC_39 Ho... 466 e-128
 gi|13545873|gb|BG547208.1|BG547208 602574620F1 NIH_MGC_77 H... 436 e-120
 gi|10320048|gb|BE871272.1|BE871272 601448967F1 NIH_MGC_65 H... 428 e-117
 gi|10364365|gb|BE898169.1|BE898169 601431135F1 NIH_MGC_72 H... 412 e-112
 gi|13671951|gb|BG620580.1|BG620580 602619745F1 NIH_MGC_79 H... 406 e-111
 gi|13576308|gb|BG568655.1|BG568655 602587668F1 NIH_MGC_76 H... 391 e-106
 gi|12340258|gb|BF973043.1|BF973043 602241361F1 NIH_MGC_46 H... 341 4e-91
 gi|10084502|gb|BE697355.1|BE697355 QV1-CT0417-080800-299-a0... 333 9e-89
 gi|9898221|gb|BE616622.1|BE616622 601278895F1 NIH_MGC_39 Ho... 329 1e-87
 gi|2069938|gb|AA410814.1|AA410814 zt36a05.r1 Soares ovary t... 297 5e-78
 gi|2538826|gb|AA626439.1|AA626439 ab49g08.r1 Stratagene lun... 276 2e-71
 gi|1049638|gb|H75695.1|H75695 yu07a04.r1 Soares fetal liver... 270 1e-69
 gi|12397382|gb|BF991057.1|BF991057 CM1-GN0160-271000-502-a1... 266 2e-68
 gi|992140|gb|H52299.1|H52299 yq81f07.r1 Soares fetal liver ... 264 7e-68
 gi|1963274|gb|AA310946.1|AA310946 EST181721 Jurkat T-cells ... 262 3e-67

>gi|12857745|dbj|BAB31099.1| putative [Mus musculus]

EST Search:

Organ: brain
 Tissue type: neuroblastoma cells

Tissue type: mammary gland

Tissue type: placenta

Tissue type: ovary, tumor tissue

Human Sequences producing significant alignments: (bits) Value

gi|12783826|emb|AL520333.1|AL520333 AL520333 LTI_NFL004_NBC... 835 0.0
 gi|10936759|dbj|AU121524.1|AU121524 AU121524 MAMMA1 Homo sa... 831 0.0
 gi|11000513|dbj|AU138992.1|AU138992 AU138992 PLACE1 Homo sa... 686 0.0
 gi|10994408|dbj|AU133869.1|AU133869 AU133869 OVARC1 Homo sa... 654 0.0
 gi|12893255|emb|AL553429.1|AL553429 AL553429 LTI_NFL006_PL2... 630 e-178
 gi|13289457|gb|BG396009.1|BG396009 602458738F1 NIH_MGC_16 H... 628 e-177
 gi|13999988|gb|BG720801.1|BG720801 602692025F1 NIH_MGC_97 H... 622 e-175
 gi|13049086|gb|BG291280.1|BG291280 602388439F1 NIH_MGC_93 H... 609 e-171
 gi|10936667|dbj|AU121432.1|AU121432 AU121432 MAMMA1 Homo sa... 567 e-159
 gi|14063903|gb|BG753250.1|BG753250 602731650F1 NIH_MGC_43 H... 519 e-144
 gi|10995473|dbj|AU134934.1|AU134934 AU134934 PLACE1 Homo sa... 511 e-142
 gi|8278290|gb|BE018271.1|BE018271 bb77h08.y1 NIH_MGC_12 Hom... 498 e-138
 gi|13994779|gb|BG715592.1|BG715592 602675925F1 NIH_MGC_96 H... 496 e-137
 gi|9347181|gb|BE410731.1|BE410731 601301615F1 NIH_MGC_21 Ho... 492 e-136
 gi|11285372|gb|BF338952.1|BF338952 602036022F1 NCI_CGAP_Brn... 428 e-117
 gi|9873394|dbj|AV652380.1|AV652380 AV652380 GLC Homo sapien... 414 e-113
 gi|1966540|gb|AA314211.1|AA314211 EST186056 Colon carcinoma... 408 e-111

gi|6922170|gb|AW403277.1|AW403277 UI-HF-BK0-abb-g-11-0-UI.r... 379 e-102
 gi|10293319|dbj|AV691456.1|AV691456 AV691456 GKC Homo sapie... 371 e-100

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gi|6896706|gb|AW392047.1|AW392047 QV4-ST0234-181199-037-c05... 363 2e-97

>gi|14789662|gb|AAH10758.1|AAH10758 Similar to carbonyl reductase 2 [Mus musculus]

EST Search:

Human Sequences producing significant alignments: (bits) Value

gi 14620169 gb BI160168.1 BI160168	602864026F1 NIH_MGC_42 H...	88	6e-15
gi 14320386 gb BG925863.1 BG925863	HNC21-1-B11.R HNC (Human...	88	6e-15
gi 14178945 gb BG831358.1 BG831358	602766220F1 NIH_MGC_42 H...	88	6e-15
gi 14177680 gb BG830093.1 BG830093	602764845F1 NIH_MGC_42 H...	88	6e-15
gi 14058983 gb BG748330.1 BG748330	602706579F1 NIH_MGC_43 H...	88	6e-15
gi 14058856 gb BG748203.1 BG748203	602705827F1 NIH_MGC_43 H...	88	6e-15
gi 13982131 gb BG706614.1 BG706614	602674104F1 NIH_MGC_96 H...	88	6e-15
gi 13413874 gb BG481595.1 BG481595	602528316F1 NIH_MGC_21 H...	88	6e-15
gi 13404430 gb BG472244.1 BG472244	602513756F1 NIH_MGC_16 H...	88	6e-15
gi 13340715 gb BG434209.1 BG434209	602506154F1 NIH_MGC_79 H...	88	6e-15
gi 13137575 gb BG331137.1 BG331137	602431839F1 NIH_MGC_18 H...	88	6e-15
gi 13032709 gb BG283133.1 BG283133	602406785F1 NIH_MGC_91 H...	88	6e-15
gi 12683322 gb BG176619.1 BG176619	602313206F1 NIH_MGC_85 H...	88	6e-15
gi 12615652 gb BG122143.1 BG122143	602349585F1 NIH_MGC_90 H...	88	6e-15
gi 12412330 gb BG025585.1 BG025585	602274505F1 NIH_MGC_85 H...	88	6e-15
gi 12343809 gb BF976594.1 BF976594	602244271F1 NIH_MGC_48 H...	88	6e-15
gi 12342418 gb BF975203.1 BF975203	602244705F1 NIH_MGC_48 H...	88	6e-15
gi 11970704 gb BF685296.1 BF685296	602141648F1 NIH_MGC_46 H...	88	6e-15
gi 11949082 gb BF675187.1 BF675187	602138110F1 NIH_MGC_83 H...	88	6e-15
gi 11641972 gb BF568592.1 BF568592	602184218F1 NIH_MGC_42 H...	88	6e-15
gi 11617689 gb BF530338.1 BF530338	602071618F1 NCI_CGAP_Brn...	88	6e-15
gi 11263622 gb BF315274.1 BF315274	601902672F1 NIH_MGC_19 H...	88	6e-15
gi 11258150 gb BF310575.1 BF310575	601895295F2 NIH_MGC_19 H...	88	6e-15
gi 11252161 gb BF305282.1 BF305282	601892747F1 NIH_MGC_17 H...	88	6e-15

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gi|11251336|gb|BF304588.1|BF304588 601887980F1 NIH_MGC_17 H... 88 6e-15
 gi|11151599|gb|BF237681.1|BF237681 601841865F1 NIH_MGC_46 H... 88 6e-15
 gi|11098442|gb|BF204856.1|BF204856 601867158F1 NIH_MGC_17 H... 88 6e-15
 gi|11098117|gb|BF204531.1|BF204531 601868138F1 NIH_MGC_17 H... 88 6e-15
 gi|10726004|dbj|AV708739.1|AV708739 AV708739 ADC Homo sapie... 88 6e-15
 gi|10404479|gb|BE909167.1|BE909167 601501782F1 NIH_MGC_70 H... 88 6e-15
 gi|10390490|gb|BE901372.1|BE901372 601674675F1 NIH_MGC_21 H... 88 6e-15
 gi|10346623|gb|BE889373.1|BE889373 601513264F1 NIH_MGC_71 H... 88 6e-15
 gi|10297085|dbj|AV695222.1|AV695222 AV695222 GKC Homo sapie... 88 6e-15
 gi|10296576|dbj|AV694713.1|AV694713 AV694713 GKC Homo sapie... 88 6e-15
 gi|10296182|dbj|AV694319.1|AV694319 AV694319 GKC Homo sapie... 88 6e-15
 gi|10293455|dbj|AV691592.1|AV691592 AV691592 GKC Homo sapie... 88 6e-15
 gi|10216172|gb|BE794974.1|BE794974 601589746F1 NIH_MGC_7 Ho... 88 6e-15
 gi|9882981|dbj|AV661967.1|AV661967 AV661967 GLC Homo sapien... 88 6e-15
 gi|9882826|dbj|AV661812.1|AV661812 AV661812 GLC Homo sapien... 88 6e-15
 gi|9875231|dbj|AV654217.1|AV654217 AV654217 GLC Homo sapien... 88 6e-15
 gi|9874551|dbj|AV653537.1|AV653537 AV653537 GLC Homo sapien... 88 6e-15
 gi|9874547|dbj|AV653533.1|AV653533 AV653533 GLC Homo sapien... 88 6e-15
 gi|9156256|gb|BE281240.1|BE281240 601155341F1 NIH_MGC_21 Ho... 88 6e-15
 gi|9137978|gb|BE264422.1|BE264422 601191730F1 NIH_MGC_7 Hom... 88 6e-15
 gi|9137251|gb|BE263706.1|BE263706 601192146F1 NIH_MGC_7 Hom... 88 6e-15
 gi|9133208|gb|BE313377.1|BE313377 601147921F1 NIH_MGC_19 Ho... 88 6e-15
 gi|8750451|gb|BE207053.1|BE207053 ba09d08.y1 NIH_MGC_7 Homo... 88 6e-15
 gi|8147585|gb|AW957902.1|AW957902 EST369972 MAGE resequence... 88 6e-15
 gi|8147508|gb|AW957825.1|AW957825 EST369895 MAGE resequence... 88 6e-15
 gi|6588561|gb|AW245568.1|AW245568 2822726.5prime NIH_MGC_7 ... 88 6e-15
 gi|2537901|gb|AA625514.1|AA625514 af72e06.r1 Soares_NhHMPu... 88 6e-15
 gi|2159374|gb|AA446709.1|AA446709 zw84d08.r1 Soares_total_f... 88 6e-15
 gi|2112928|gb|AA429728.1|AA429728 zv60c08.r1 Soares_testis... 88 6e-15
 gi|2111979|gb|AA430753.1|AA430753 zw52g09.r1 Soares_total_f... 88 6e-15
 gi|1272012|gb|W00611.1|W00611 yy71a11.r1 Soares_multiple_sc... 88 6e-15
 gi|1271974|gb|W00555.1|W00555 yy70g11.r1 Soares_multiple_sc... 88 6e-15
 gi|1087367|gb|H91789.1|H91789 yv04c07.r1 Soares fetal liver... 88 6e-15
 gi|1063794|gb|H84670.1|H84670 ys66c06.r1 Soares retina N2b4... 88 6e-15
 gi|1044285|gb|H72469.1|H72469 ys07a02.r1 Soares fetal liver... 88 6e-15
 gi|1023609|gb|H64869.1|H64869 yr68e02.r1 Soares fetal liver... 88 6e-15
 gi|663547|gb|T60510.1|T60510 yb86c11.r1 Stratagene liver (#... 88 6e-15
 gi|13976241|gb|BG703674.1|BG703674 602686647F1 NIH_MGC_95 H... 84 1e-13
 gi|14568476|gb|BI117575.1|BI117575 602866754F1 NIH_MGC_7 Ho... 82 4e-13
 gi|9155643|gb|BE280635.1|BE280635 601155778F1 NIH_MGC_21 Ho... 82 4e-13

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gi|1046607|gb|H73548.1|H73548 ys10h05.r1 Soares fetal liver... 80 2e-12
gi|11154540|gb|BF240616.1|BF240616 601875744F1 NIH_MGC_55 H... 78 6e-12

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Table 3: Bacterial SDRs derived from non-redundant NCBI Database

- >gi|13701031|dbj|BAB42326.1| 3-oxoacyl- reductase [Staphylococcus aureus subsp. aureus N315]
- >gi|3170581|gb|AAC18111.1| ketoreductase [Streptomyces roseofulvus]
- >gi|2226002|emb|CAA74371.1| glucose-1-dehydrogenase [Staphylococcus xylosus]
- >gi|4240408|gb|AAD13539.1| reductase homolog [Streptomyces cyanogenus]
- >gi|14521852|ref|NP_127328.1| 3-OXOACYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [Pyrococcus abyssi]
- >gi|9789233|gb|AAF98275.1|AF197933_5 beta-ketoacyl-ACP reductase [Streptococcus pneumoniae]
- >gi|9967599|emb|CAC05675.1| putative keto reductase [Streptomyces antibioticus]
- >gi|12513057|gb|AAG54602.1|AE005204_12 putative oxidoreductase [Escherichia coli O157:H7 EDL933]
- >gi|12513383|gb|AAG54850.1|AE005230_10 putative oxidoreductase [Escherichia coli O157:H7 EDL933]
- >gi|12720847|gb|AAK02663.1| YdfG [Pasteurella multocida]
- >gi|12744823|gb|AAK06787.1|AF324838_6 putative ketoreductase SimA6 [Streptomyces antibioticus]
- >gi|13622804|gb|AAK34493.1| putative beta-ketoacyl-ACP reductase [Streptococcus pyogenes M1 GAS]
- >gi|14280346|gb|AAK57528.1| polyketide ketoreductase PgaD [Streptomyces sp. PGA64]
- >gi|14346021|gb|AAK60002.1| ketoreductase-like protein [Streptomyces aureofaciens]
- >gi|14346023|gb|AAK60004.1| oxygenase-like protein [Streptomyces aureofaciens]

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- >gi|14486276|gb|AAK61717.1| ketoreductase-like protein [Streptomyces aureofaciens]
- >gi|294354|gb|AAA16128.1| The first start codon in the ORF is found at position 2466 [Pseudomonas sp.]
- >gi|1502421|gb|AAC44307.1| 3-ketoacyl-acyl carrier protein reductase
- >gi|4160474|gb|AAD05259.1| 3-ketoacyl-CoA reductase PhaB [Bacillus megaterium]
- >gi|4416467|gb|AAD20367.1| dehydrogenase dhgA [Mycobacterium avium]
- >gi|4886772|gb|AAD32035.1|AF093787_3 CylG [Streptococcus agalactiae]
- >gi|14520705|ref|NP_126180.1| OXIDOREDUCTASE [Pyrococcus abyssi]
- >gi|5669916|gb|AAD46515.1|AF145724_4 oxidoreductase homolog [Streptomyces albus]
- >gi|6018300|gb|AAF01806.1|AF187532_2 C-7 ketoreductase [Streptomyces nogalater]
- >gi|8896110|gb|AAF81238.1| putative beta-ketoacyl reductase [Streptomyces griseus subsp. griseus]
- >gi|11354347|pir|F82128 3-oxoacyl-(acyl-carrier-protein) reductase VC2021 [imported] - Vibrio cholerae (group O1 strain N16961)
- >gi|9944997|gb|AAG03070.1|AF293355_6 putative bifunctional cyclase/reductase [Streptomyces collinus]
- >gi|9944998|gb|AAG03071.1|AF293355_7 putative reductase [Streptomyces collinus]
- >gi|10174123|dbj|BAB05225.1| oxidoreductase [Bacillus halodurans]
- >gi|11036625|gb|AAG01883.1| ribitol dehydrogenase [Escherichia coli]
- >gi|12382035|dbj|BAB20935.2| ORF [Staphylococcus aureus]
- >gi|12514413|gb|AAG55660.1|AE005304_5 putative fatty acyl chain reductase [Escherichia coli O157:H7 EDL933]
- >gi|12514637|gb|AAG55839.1|AE005319_8 3-oxoacyl-[acyl-carrier-protein]

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>gi|12515117|gb|AAG56223.1|AE005351_2 putative oxidoreductase [Escherichia coli O157:H7 EDL933]

>gi|12515526|gb|AAG56544.1|AE005380_3 putative oxidoreductase [Escherichia coli O157:H7 EDL933]

>gi|12517239|gb|AAG57883.1|AE005505_1 putative oxidoreductase [Escherichia coli O157:H7 EDL933]

>gi|12656392|gb|AAK00851.1|AF298896_1 hypothetical protein [Burkholderia pseudomallei]

>gi|12721234|gb|AAK03000.1| unknown [Pasteurella multocida]

>gi|12722349|gb|AAK04000.1| FabG [Pasteurella multocida]

>gi|12744826|gb|AAK06790.1|AF324838_9 putative reductase SimA9 [Streptomyces antibioticus]

>gi|13507282|gb|AAK28547.1| putative oxidoreductase [Yersinia pseudotuberculosis]

>gi|13621828|gb|AAK33602.1| putative 5-keto-D-gluconate 5-reductase [Streptococcus pyogenes M1 GAS]

>gi|13702422|dbj|BAB43563.1| ORFID:SA2260~hypothetical protein, similar to glucose 1-dehydrogenase [Staphylococcus aureus subsp. aureus N315]

>gi|2337820|emb|CAA74250.1| putative FabG protein [Bacillus subtilis]

>gi|11356556|pir|T44878 3-oxoacyl-[acyl-carrier protein] reductase homolog [imported] - Mycobacterium leprae

>gi|11890400|gb|AAG41118.1|AF080431_1 putative blue fluorescent protein [Vibrio vulnificus]

>gi|12514398|gb|AAG55648.1|AE005303_4 putative oxidoreductase [Escherichia coli O157:H7 EDL933]

>gi|12516801|gb|AAG57544.1|AE005472_11 putative oxidoreductase [Escherichia coli O157:H7 EDL933]

>gi|12518153|gb|AAG58600.1|AE005571_17 putative beta-ketoacyl-ACP reductase [Escherichia coli O157:H7 EDL933]

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>gi|12519258|gb|AAG59448.1|AE005657_8 putative oxidoreductase [Escherichia coli O157:H7 EDL933]

>gi|13621671|gb|AAK33459.1| putative dehydrogenase / oxidoreductase [Streptococcus pyogenes M1 GAS]

>gi|13622089|gb|AAK33840.1| putative oxidoreductase [Streptococcus pyogenes M1 GAS]

>gi|13700042|dbj|BAB41341.1| acetoin reductase [Staphylococcus aureus subsp. aureus N315]

>gi|13702428|dbj|BAB43569.1| ORFID:SA2266~hypothetical protein, similar to oxidoreductase [Staphylococcus aureus subsp. aureus N315]

>gi|13883461|gb|AAK47965.1| 3-oxoacyl-(acyl-carrier-protein) reductase [Mycobacterium tuberculosis CDC1551]
Formularende

>gi|13622804|gb|AAK34493.1| putative beta-ketoacyl-ACP reductase [Streptococcus pyogenes M1 GAS]
Formularende

>gi|12054781|emb|CAC20627.1| hypothetical protein [Listeria monocytogenes]

>gi|1742522|dbj|BAA15229.1| 3-oxoacyl-[acyl-carrier protein] reductase (EC 1.1.1.100) (3-ketoacyl-acyl carrier protein reductase). [Escherichia coli]

>gi|11353996|pir|F81902 probable oxidoreductase NMA1336 [imported] - Neisseria meningitidis (group A strain Z2491)

>gi|6715317|gb|AAF26372.1|AF204735_4 putative NADP-dependent oxidoreductase [Streptomyces coelicolor A3(2)]

>gi|7471791|pir|C75365 daunorubicin C-13 ketoreductase - Deinococcus radiodurans (strain R1)

>gi|146280|gb|AAC13413.1| glucitol-6-phosphate dehydrogenase (gutD) [Escherichia coli]

>gi|5688848|dbj|BAA82699.1| Orf2 [Streptomyces coelicolor]

>gi|2842819|gb|AAC38850.1| pteridine reductase [Trypanosoma cruzi]

>gi|13701301|dbj|BAB42595.1| ORFID:SA1333~hypothetical protein, similar to oxidoreductase [Staphylococcus aureus subsp. aureus N315]

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>gi|11356654|pir|T44745 probable oxidoreductase [imported] - Mycobacterium leprae

>gi|6562733|emb|CAB62872.1| conserved hypothetical protein, MAL4P2.31 [Plasmodium falciparum]

>gi|11355853|pir|C82155 probable C-factor VC1815 [imported] - Vibrio cholerae (group O1 strain N16961)

>gi|14587405|dbj|BAB61742.1| cyclohexanol dehydrogenase [Acinetobacter sp. NCIMB9871]

>gi|14600158|gb|AAK71281.1|AF387640_27 keto acyl carrier protein reductase [Coxiella burnetii]

>gi|14245893|dbj|BAB56288.1| acetoin(diacetyl)reductase [Staphylococcus aureus subsp. aureus Mu50]

>gi|14247001|dbj|BAB57393.1| 3-oxoacyl-(acyl-carrier protein) reductase [Staphylococcus aureus subsp. aureus Mu50]

>gi|14247273|dbj|BAB57664.1| hypothetical protein [Staphylococcus aureus subsp. aureus Mu50]

>gi|14248102|dbj|BAB58490.1| hypothetical protein [Staphylococcus aureus subsp. aureus Mu50]

>gi|14248246|dbj|BAB58634.1| hypothetical protein [Staphylococcus aureus subsp. aureus Mu50]

>gi|14248252|dbj|BAB58640.1| hypothetical protein [Staphylococcus aureus subsp. aureus Mu50]

>gi|14280348|gb|AAK57530.1| oxygenase-reductase PgaM [Streptomyces sp. PGA64]

>gi|14289341|gb|AAK58906.1|AF279141_4 cis-diol dehydrogenase [Rhodococcus sp. 19070]

>gi|14324288|dbj|BAB59216.1| glucose 1-dehydrogenase [Thermoplasma volcanium]

>gi|14325607|dbj|BAB60510.1| 3-oxoacyl-acyl carrier protein reductase [Thermoplasma volcanium]

>gi|14325671|dbj|BAB60574.1| glucose 1-dehydrogenase [Thermoplasma volcanium]

>gi|14349112|emb|CAC41336.1| acetoacetyl-CoA reductase [Azotobacter sp. FA8]

>gi|14423345|gb|AAK62355.1|AF380367_5 DbtB [Burkholderia sp. DBT1]

>gi|14518347|ref|NP_116830.1| MS142, putative gluconate dehydrogenase [Microscilla sp. PRE1].

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- >gi|14523094|gb|AAK64694.1| putative [Sinorhizobium meliloti]
- >gi|14523350|gb|AAK64928.1| ldnO1 gluconate 5-dehydrogenase [Sinorhizobium meliloti]
- >gi|14523471|gb|AAK65040.1| putative [Sinorhizobium meliloti]
- >gi|14523623|gb|AAK65178.1| probable [Sinorhizobium meliloti]
- >gi|38683|emb|CAA37101.1| nodG protein (AA 1-254) [Azospirillum brasilense]
- >gi|487893|gb|AAA19620.1| ORF5
- >gi|510725|gb|AAB36565.1| ketoreductase [Streptomyces venezuelae]
- >gi|12824504|gb|AAE49410.1| Sequence 2 from patent US 6110704
- >gi|1828502|gb|AAB42956.1| Sequence 5 from patent US 5573915
- >gi|3010372|gb|AAC10978.1|74231 Sequence 13 from patent US 5686590
- >gi|9928758|emb|CAC05159.1| SEQ ID NO 46F [Mycobacterium tuberculosis]
- >gi|13443714|emb|CAC34889.1| ORF16; 3,4-Reduktase [Saccharopolyspora spinosa]
- >gi|12542824|emb|CAC25795.1| RXA02474 [Corynebacterium glutamicum]
- >gi|12542826|emb|CAC25796.1| RXA02453 [Corynebacterium glutamicum]
- >gi|12542872|emb|CAC25819.1| RXA00825 [Corynebacterium glutamicum]
- >gi|12542900|emb|CAC25833.1| RXA00251 [Corynebacterium glutamicum]
- >gi|12542902|emb|CAC25834.1| RXN02654 [Corynebacterium glutamicum]
- >gi|12544154|emb|CAC26450.1| RXA01764 [Corynebacterium glutamicum]
- >gi|12544216|emb|CAC26481.1| RXA00681 [Corynebacterium glutamicum]
- >gi|12544300|emb|CAC26523.1| RXN01090 [Corynebacterium glutamicum]
- >gi|10050763|gb|AAE27670.1| Sequence 2 from patent US 5955319

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>gi|10280064|emb|CAC09972.1| Glucose-Degydrogenase aus *Bacillus megaterium*

>gi|6741907|emb|CAB69606.1| unnamed protein product [unidentified]

>gi|6741907|emb|CAB69606.1| unnamed protein product [unidentified]

>gi|6740927|emb|CAB69495.1| CONIFERYLALKOHOL-DEHYDROGENASE
[unidentified]

>gi|1247706|emb|CAA01852.1| CoA reductase [*Allochromatium vinosum*]

>gi|345143|emb|CAA00174.1| glucose dehydrogenase [*Bacillus megaterium*]

>gi|532243|gb|AAA65204.1| daunorubicin-doxorubicin polyketide synthase

>gi|13702128|dbj|BAB43420.1| ORFID:SA2119~hypothetical protein, similar to
dehydrogenase [*Staphylococcus aureus* subsp. *aureus* N315]

>gi|13622711|gb|AAK34408.1| putative oxidoreductase [*Streptococcus pyogenes*
M1 GAS]

>gi|12514413|gb|AAG55660.1|AE005304_5 putative fatty acyl chain reductase
[*Escherichia coli* O157:H7 EDL933]

>gi|15026474|gb|AAK81319.1|AE007836_1 Possible S-layer protein [*Clostridium*
acetobutylicum]

>gi|15026554|gb|AAK81391.1|AE007844_1 3-oxoacyl-acyl carrier protein reductase
[*Clostridium acetobutylicum*]

>gi|15026670|gb|AAK81497.1|AE007854_4 3-ketoacyl-acyl carrier protein
reductase [*Clostridium acetobutylicum*]

>gi|15004706|ref|NP_149166.1| Oxidoreductase [*Clostridium acetobutylicum*]

>gi|15004755|ref|NP_149215.1| Oxidoreductase [*Clostridium acetobutylicum*]

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Table 4: FabG SDR Proteins derived from non redundant NCBI Database

>gi|14782791|ref|XP_042583.1|FabG (beta-ketoacyl-acyl-carrier-protein) reductase, E coli) like [Homo sapiens]

>gi|13701031|dbj|BAB42326.1|3-oxoacyl- reductase [Staphylococcus aureus subsp. aureus N315]

>gi|13622804|gb|AAK34493.1|putative beta-ketoacyl-ACP reductase [Streptococcus pyogenes M1 GAS]

>gi|14247001|dbj|BAB57393.1|3-oxoacyl-(acyl-carrier protein) reductase [Staphylococcus aureus subsp. aureus Mu50]

>gi|14041700|emb|CAC38444.1|dJ1033B10.9.1 (FabG (beta-ketoacyl-acyl-carrier-protein) reductase, E coli) like, isoform 1) [Homo sapiens]

>gi|14041699|emb|CAC38443.1| dJ1033B10.9.2 (FabG (beta-ketoacyl-acyl-carrier-protein) reductase, E coli) like, isoform 2) [Homo sapiens]

>gi|12514637|gb|AAG55839.1|AE005319.8 3-oxoacyl-acyl-carrier-protein] reductase [Escherichia coli O157:H7 EDL933]

>gi|13360935|dbj|BAB34894.1|3-oxoacyl-acyl-carrier-protein] reductase [Escherichia coli O157:H7]

>gi|12722349|gb|AAK04000.1|FabG [Pasteurella multocida]

>gi|12824504|gb|AAE49410.1| Sequence 2 from patent US 6110704

>gi|10580854|gb|AAG19676.1|3-oxoacyl-acyl-carrier-protein] reductase; FabG [Halobacterium sp. NRC-1]

>gi|10175111|dbj|BAB06210.1|3-oxoacyl-(acyl-carrier protein) reductase [Bacillus halodurans]

>gi|8978670|dbj|BAA98506.1|oxoacyl (carrier protein) reductase [Chlamydomonas reinhardtii J138]

>gi|4376571|gb|AAD18445.1|Oxoacyl (Carrier Protein) Reductase [Chlamydomonas reinhardtii CWL029]

>gi|1787335|gb|AAC74177.1|3-oxoacyl-acyl-carrier-protein] reductase [Escherichia coli K12]

>gi|3328647|gb|AAC67830.1|Oxoacyl (Carrier Protein) Reductase [Chlamydia trachomatis]

>gi|10639611|emb|CAC11583.1|3-oxoacyl-acyl-carrier-protein] reductase related protein [Thermoplasma acidophilum]

>gi|10639394|emb|CAC11396.1|3-ketoacyl-acyl carrier protein reductase related protein [Thermoplasma acidophilum]

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- >gi|10039021|dbj|BAB13055.1|3-oxoacyl-[acyl-carrier protein] reductase [Buchnera sp. APS]
- >gi|9949065|gb|AAG06355.1|AE004722_11 3-oxoacyl-[acyl-carrier-protein] [Pseudomonas aeruginosa]
- >gi|9789233|gb|AAF98275.1|AF197933_5 beta-ketoacyl-ACP reductase [Streptococcus pneumoniae]
- >gi|5459072|emb|CAB50558.1|3-OXOACYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [Pyrococcus abyssi]
- >gi|2738155|gb|AAB94395.1|3-oxoacyl-acyl carrier protein reductase [Pseudomonas aeruginosa]
- >gi|1651536|dbj|BAA35901.1|3-oxoacyl-[acyl-carrier-protein] reductase (EC 1.1.1.100). [Escherichia coli]
- >gi|3861291|emb|CAA15190.1|3-OXOACYL REDUCTASE (fabG) [Rickettsia prowazekii]
- >gi|1561753|gb|AAC69638.1|3-ketoacyl reductase [Mycobacterium smegmatis]
- >gi|2183267|gb|AAC46203.1|ketoacyl-reductase [Mycobacterium avium]
- >gi|1502421|gb|AAC44307.1|3-ketoacyl-acyl carrier protein reductase [Bacillus subtilis]
- >gi|1173841|gb|AAC43589.1|3-ketoacyl-ACP reductase [Vibrio harveyi]
- >gi|3282804|gb|AAC38650.1|3-oxoacyl-acyl carrier protein reductase [Salmonella typhimurium]
- >gi|2253068|emb|CAB10712.1|hypothetical protein RV2129c [Mycobacterium tuberculosis]
- >gi|1573112|gb|AAC21824.1|3-ketoacyl-acyl carrier protein reductase (fabG) [Haemophilus influenzae Rd]
- >gi|2337820|emb|CAA74250.1|putative FabG protein [Bacillus subtilis]
- >gi|2633963|emb|CAB13464.1|3-ketoacyl-acyl carrier protein reductase [Bacillus subtilis]
- >gi|1651214|dbj|BAA13560.1|beta-ketoacyl-ACP reductase [Actinobacillus actinomycetemcomitans]
- >gi|145881|gb|AAA23739.1|biotin carboxylase [Escherichia coli]
- >gi|2313678|gb|AAD07627.1|3-ketoacyl-acyl carrier protein reductase (fabG) [Helicobacter pylori 26695]

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>gi|4155047|gb|AAD06084.1|ACETYL-COENZYME A CARBOXYLASE SUBUNIT
A [Helicobacter pylori J99]

>gi|6045047|dbj|BAA85256.1|3-oxoacyl-[acyl carrier protein] reductase
homolog [Moritella marinalis]

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Table 5: SDRs in Fungi derived from non redundant NCB Database

>gi|5689604|emb|CAB51900.1| 1,3,6,8-tetrahydroxynaphthalene reductase [Aspergillus fumigatus]

>gi|13570027|gb|AAG29497.2|AF290182_1 tetrahydroxynaphthalene reductase [Magnaporthe grisea]

>gi|1592833|gb|AAB42156.1| ketoreductase [Aspergillus parasiticus]

>gi|431103|gb|AAA19514.1| polyhydroxynaphthalene reductase [Magnaporthe grisea]

>gi|3425989|dbj|BAA32378.1| Brn1 [Curvularia intermedia]

>gi|450261|gb|AAA53572.1| verA [Emericella nidulans]

>gi|12718334|emb|CAC28569.1| conserved hypothetical protein [Neurospora crassa]

>gi|11359360|pir||T51084 3-oxoacyl-lacyl-carrier-protein]-reductase (oar-1) [imported] - Neurospora crassa

>gi|4499846|emb|CAB39316.1| oxidoreductase [Claviceps purpurea]

>gi|1902911|dbj|BAA18962.1| reductase [Colletotrichum lagenarium]

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Claims

1. A method for identifying or verifying members of the short chain dehydrogenase (SDR) family comprising the steps
- (a) providing a target sequence of molecules to be classified,
- (b) comparing said target sequence with core SDR motifs selected from
- (i) MV1 being derived from the motif MT1: TGxxxGxG by replacement of 0 to 2 amino acids,
- (ii) MT2: NN(0-2:x)AG,
- (iii) MT3: N, located at a position 90-110 relative to MT1,
- (iv) MV4 being derived from the motif MT4: S(11-52:x)YxxxK by replacement of 0-2 amino acids and
- (v) MT5: PG,
- (c) determining positive SDR candidates containing
- (i) at least the core SDR motifs MV1 and MV4 and
- (ii) at least 7 of the 14 amino acids contained in the motifs MT1, MT2, MT3, MT4 and MT5 and
- (d) classifying positive SDR candidates as belonging to the SDR family.
2. The method according to claim 1 further comprising a step
- (e) ranking of the positive SDR candidates obtained according to the number of amino acids matching with motifs MT1, MT2, MT3, MT4 and MT5.
3. The method according to claim 1 or 2, wherein in step (b) the target sequence is compared with core SDR motifs selected from
- (i) MT1: TGxxxGxG,
- (ii) MT2: NN(0-2:x)AG,
- (iii) MT3: N, located at position 90-110 relative to MT1,
- (iv) MT4: S(11-52:x)YxxxK and
- (v) MT5: PG, and
- in step (c) positive SDR candidates are determined containing
- (i) at least the core SDR motifs MT1 and MT4 and

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- (ii) at least 7 of the 14 amino acids contained in the motifs MT1, MT2, MT3, MT4 and MT5.
- 4. The method according to any of claims 1-3, wherein in step (c)
5 positive SDR candidates are determined containing
 - (i) at least the core SDR motifs MV1, MV4 and one of MT2, MT3 and MT5 and
 - (ii) at least 7 of the 14 amino acids contained in the motifs MT1, MT2, MT3, MT4 and MT5.
- 10 5. The method according to any of claims 1-4, wherein in step (c) positive SDR candidates are determined containing
 - (i) the core SDR motifs MV1, MV4, MT2, and MT3 or MV1, MV4, MT2 and MT5 or MV1, MV4, MT3 and MT5.
- 15 6. The method according to any of claims 1-5, wherein positive SDR candidates are determined containing the core SDR motifs MV1, MV4, MT2, MT3 and MT5.
- 20 7. The method according to claim 1, wherein in step (c) positive candidates are determined containing at least 9, preferably at least 11 of the 14 amino acids contained in the motifs MT1, MT2, MT3, MT4 and MT5.
- 25 8. The method according to any of the preceding claims, wherein MT2 is defined as NNAG.
- 9. The method according to any of the preceding claims, wherein MV4 is derived from the motif MT'4:S(11-52:x)YxASK by
30 replacement of 0-2 amino acids.
- 10. The method according to claim 9, wherein in step (c) positive candidates are determined containing at least 9, preferably at least 11, particular preferably at least 13 of the 16 amino acids
35 contained in the core motifs used.

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11. The method according to any of the preceding claims, wherein MT2 and/or MT5 are extended for identifying or verifying FabG_SDRs, wherein MT₂:VxVNNAG, wherein V can be replaced and MT₅:PGFI, wherein F and/or I are used as search motif.
12. The method according to any of the preceding claims further comprising one or more of the following further steps:
- (i) three-dimensional structure comparison and
 - (ii) biological function analysis.
13. Member of the short-chain dehydrogenase (SDR) family identified with the method according to any of claims 1-12.
14. SDR according to claim 13, wherein it is selected from the SDRs shown in Tables 1-5.
15. A method for providing modulators for members of the short chain dehydrogenase (SDR) family comprising the steps
- (a) providing one or more target sequences of members of the short chain dehydrogenase family based on an algorithm using core SDR motifs for searching members of the SDR family and
 - (b) providing modulators, which enhance or inhibit the activity of the members of the short chain dehydrogenase family.
16. The method according to claim 15, wherein in step (a) the method according to any of claims 1-12 is applied.
17. The method according to claim 15 or 16, wherein in step (b) a protein sequence alignment with known SDR sequences is performed for pre-selecting possible modulators.
18. A method for evaluation of lead-candidates for possible modulators of a member of the SDR family comprising the steps
- (a) providing one or more target sequences of members of the short chain dehydrogenase family based on an algorithm using core SDR motifs for searching members of the SDR family,

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- (b) ranking the target sequences according to the number of amino acids matching with the core SDR motifs used and
- (c) deriving lead-candidates from metabolites of evolutionary related SDR enzymes.

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19. The method according to claim 18, wherein in step (a) the method according to any of claims 1-12 is applied.

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20. A method for providing a pharmaceutical agent comprising the steps

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- (a) providing one or more target sequences of members of the short chain dehydrogenase family based on an algorithm using core SDR motifs for searching members of the SDR family,
- (b) providing modulators, which enhance or inhibit the activity of the members of the short chain dehydrogenase family and
- (c) formulating said modulators as pharmaceutical agent.

20

21. The method according to claim 20, wherein in step (a) the method according to claims 1-12 is applied.

22. The method according to claim 20 or 21, wherein in step (b) the method according to any of claims 15-17 is applied.

25

23. The method according to any of claims 20-22, wherein a modulator is provided, which enhances the activity of the members of the short chain dehydrogenase family.

30

24. The method according to any of claims 20-22, wherein a modulator is provided, which inhibits the activity of the members of the short chain dehydrogenase family.

35

25. The method according to any of claims 20-24, wherein the validation of a modulator or a function of a SDR enzyme found with an algorithm using core SDR motifs is performed with biochemical methods.

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26. The method according to any of claims 20-29, wherein expressed sequence tags and gene sequence comparison are used to provide a function of the member of the short chain dehydrogenase family, which has been identified or verified with an algorithm using core SDR motifs.

27. The method according to any of claims 20-26, wherein a modulator or a function of an SDR enzyme found with an algorithm using core SDR motifs is validated high throughput function screening for function identification, UHTS for lead compounds, molecular homology modelling, substrate docking simulations, tissue expression, cDNA arrays or analysis of disease in animal or in vitro model systems.

28. The method according to any of claims 20-27, wherein a human SDR enzyme is provided and the pharmaceutical agent is applied for therapeutical or diagnostical purposes.

29. The method according to claim 28, wherein the human SDR enzyme is selected from the human SDRs shown in Table 1 or 2.

30. The method according to any of claims 20-28, wherein an SDR from a pathogen or/and a fungi is provided to obtain a high specific pharmaceutical agent.

31. The method according to claim 30, wherein the SDR is selected from the SDRs shown in Table 3, 4 or 5.

32. The method according to claims 20-31, wherein an SDR enzyme with high homology is provided, which constitutes an essential enzyme.

33. The method according to any of claims 20-31, wherein a SDR enzyme with low homology or high divergence between different species is provided, which allows for a species specific modulation.

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34. Pharmaceutical agent obtainable by a method according to any of claims 20-33.
- 5 35. Pharmaceutical agent according to claim 34 for the prophylaxis, treatment or/and diagnosis of diseases.
36. Pharmaceutical agent according to any of claims 34 or 35, which is a fungicide or antibiotic.
- 10 37. A method for detection of clinically relevant polymorphisms or single nucleotide polymorphisms comprising the steps
- (a) providing one or more target sequences or members of the short chain dehydrogenase family based on an algorithm using core SDR motifs for searching members of the SDR family,
- 15 (b) ranking the members of the short chain dehydrogenase family according to the number of amino acids matching with the core SDR motifs applied, and
- (c) comparing evolutionary patterns within the SDR enzymes.
- 20 38. The method according to claim 37, wherein disease mechanisms are characterised.
39. The method according to claim 37 or 38, wherein metabolisms of xenobiotics are characterised.
- 25 40. The method according to any of claims 37-39, wherein structure-function relationships are identified and/or substrates of SDR members with unknown function are identified.
- 30 41. The method according to claim 20-33, wherein a pharmaceutical agent for affecting immune regulation is provided by developing a modulator for 17 β HSD type 3, 17 β HSD type 7, 17 β HSD type 8, 17 β HSD type 10, 11 β HSD-1, CR1, UDP glucose epimerase, SDR_SRL, AF067174, AF151840, AF151844, AF0078850, Fvt-1,
- 35 HEP-27, DKFZ_ORF, WWOX_ORF, or CR3.

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42. The method according to claims 20-33, wherein a pharmaceutical agent for affecting autoimmunity is provided by developing a modulator for 17 β HSD-3, 17 β HSD-8, 11 β HSD-1, AF057034, U89717, CR1, AF0078850, HEP-27, or CR-3.

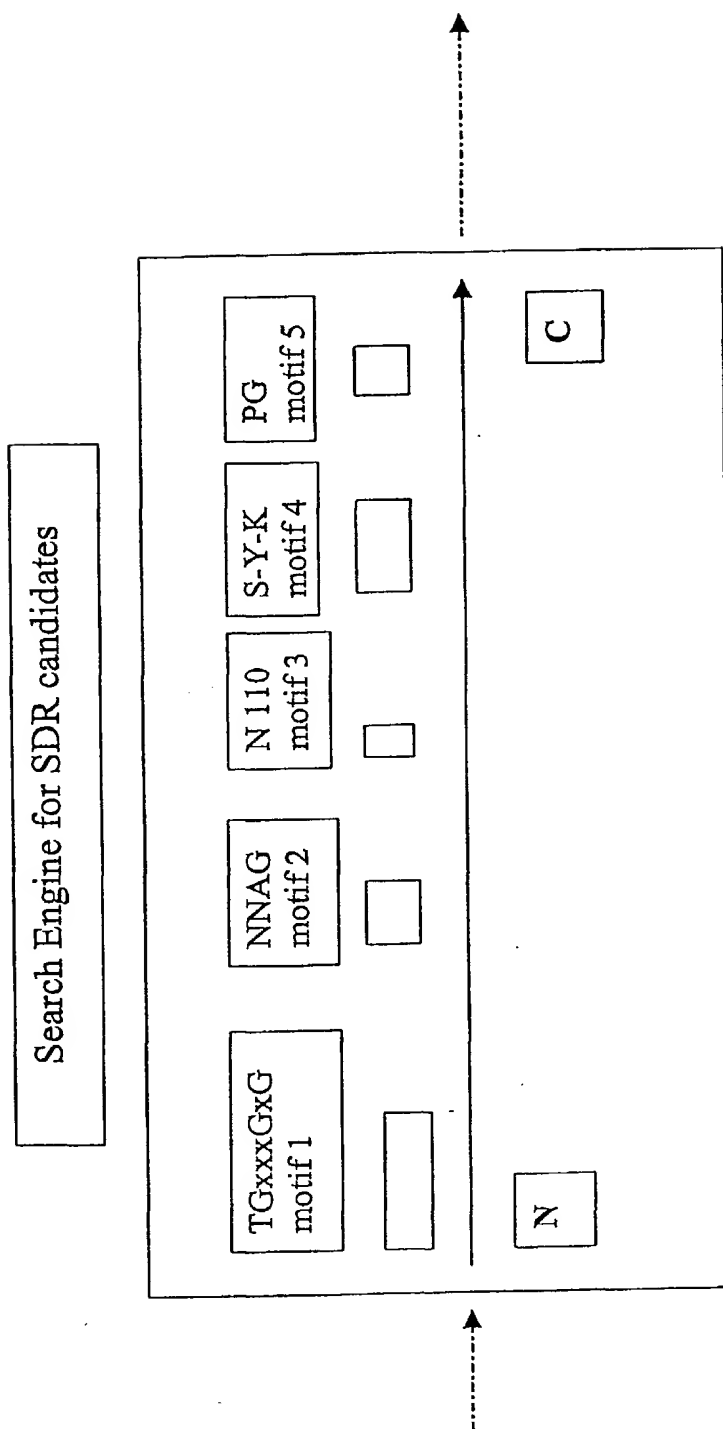
43. The method according to claim 20-33, wherein a pharmaceutical agent for wound healing or partial recovery is provided by developing a modulator for 17 β HSD-3, 17 β HSD-8, 11 β HSD-1, U89717, CR1, AF0078850, HEP-27, or CR-3.

44. The method according to claim 20-33, wherein a pharmaceutical agent for treatment of leukemia is provided by developing modulators for 17- β HSD-10 or Fvt-1.

45. The method according to claim 20-33, wherein a pharmaceutical agent for apoptosis regulation is provided by developing a modulator for 17 β HSD-10, U89717, SDR_SRL; or for providing a pharmaceutical agent for affecting immune response by providing a modulator for AF016509, or providing a pharmaceutical agent for the treatment of cancer by providing modulators for AF016509, or providing a pharmaceutical agent for affecting cell growth by providing a modulator for U89717, or providing a pharmaceutical agent for the treatment of lung carcinoma by providing a modulator for SDR_SRL, or providing a pharmaceutical agent for the regulation of inflammation or vasculitis by providing a modulator for DKFZ_ORF.

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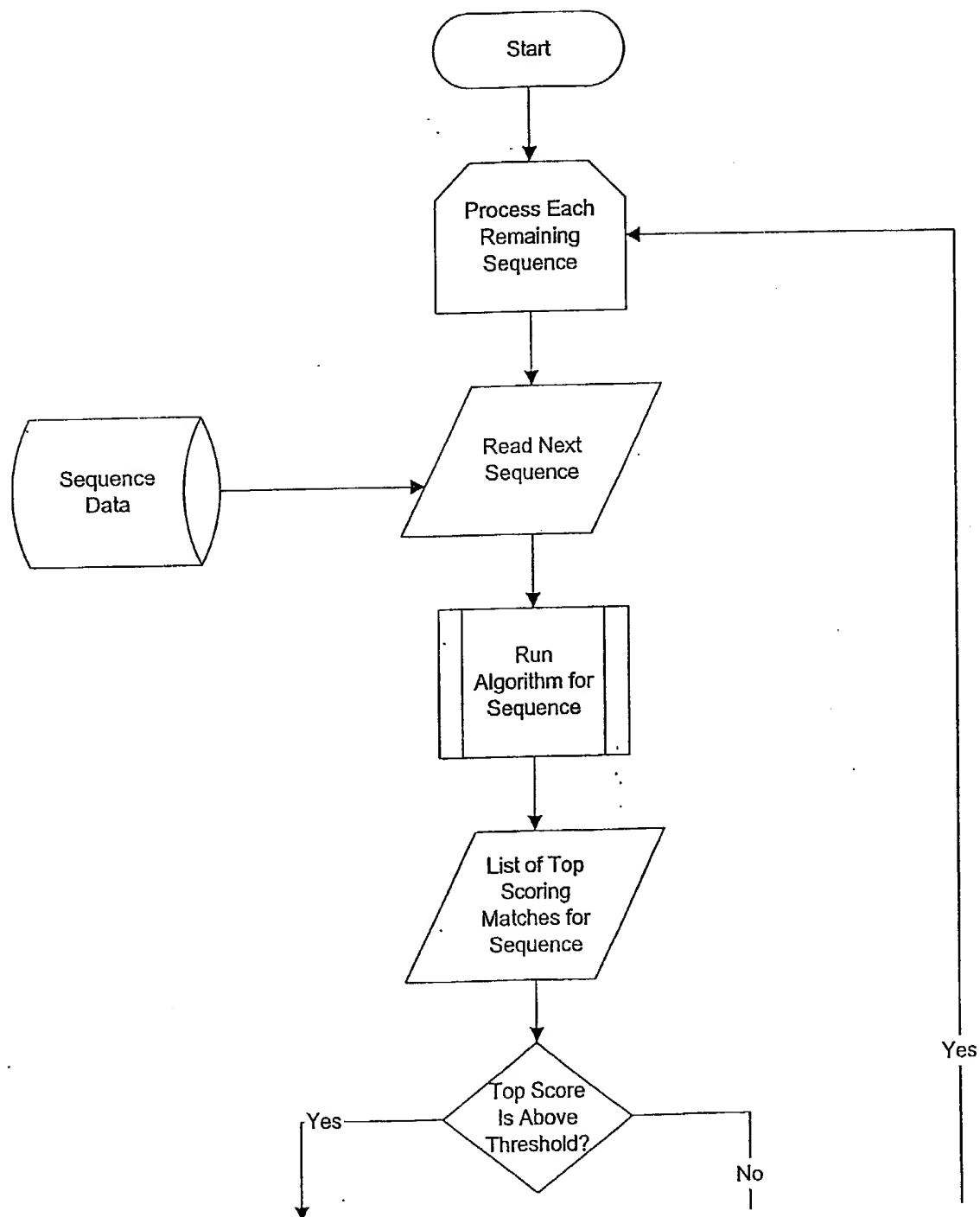
Fig. 1



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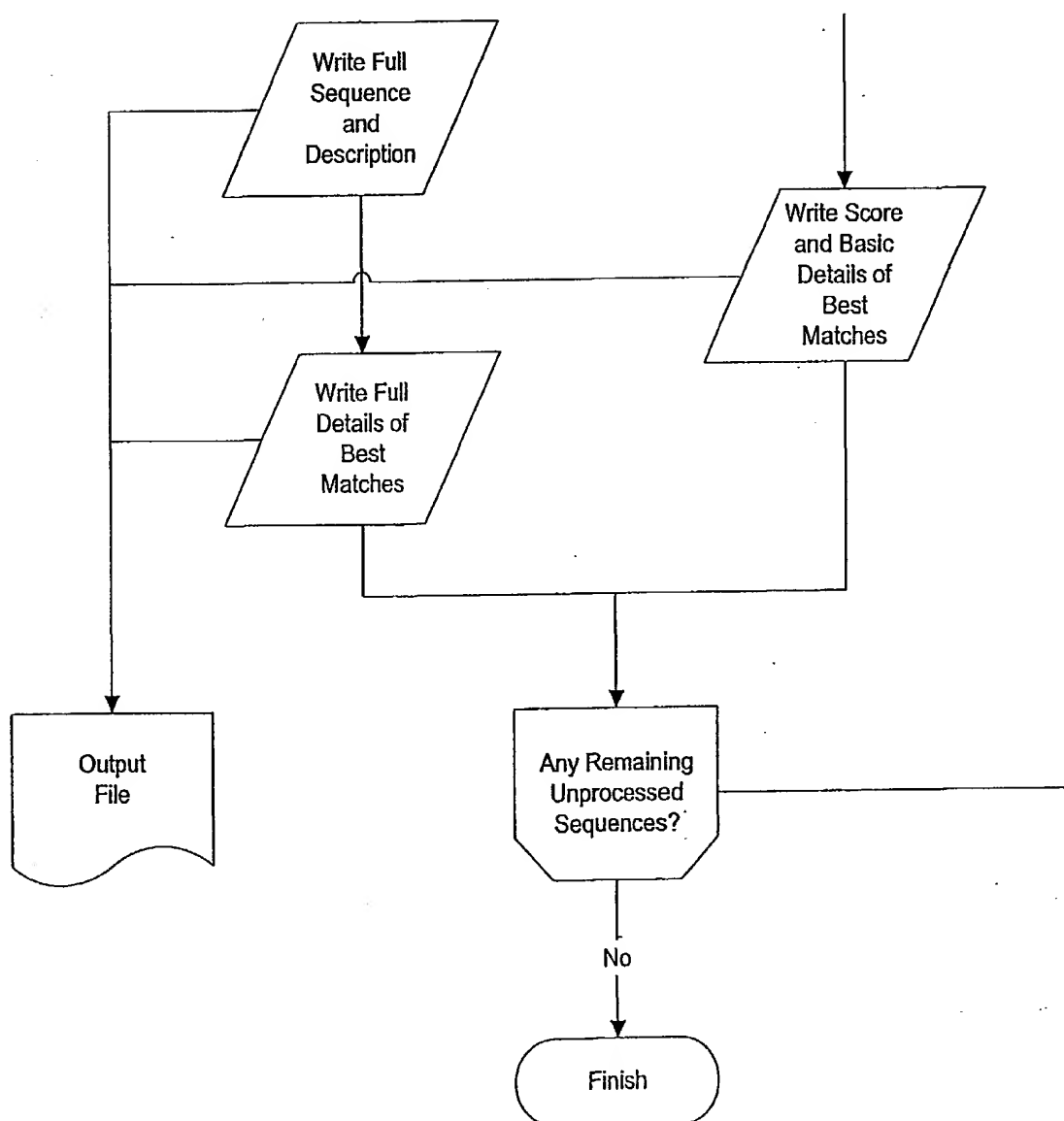
Flowchart for data processing

Fig. 2a



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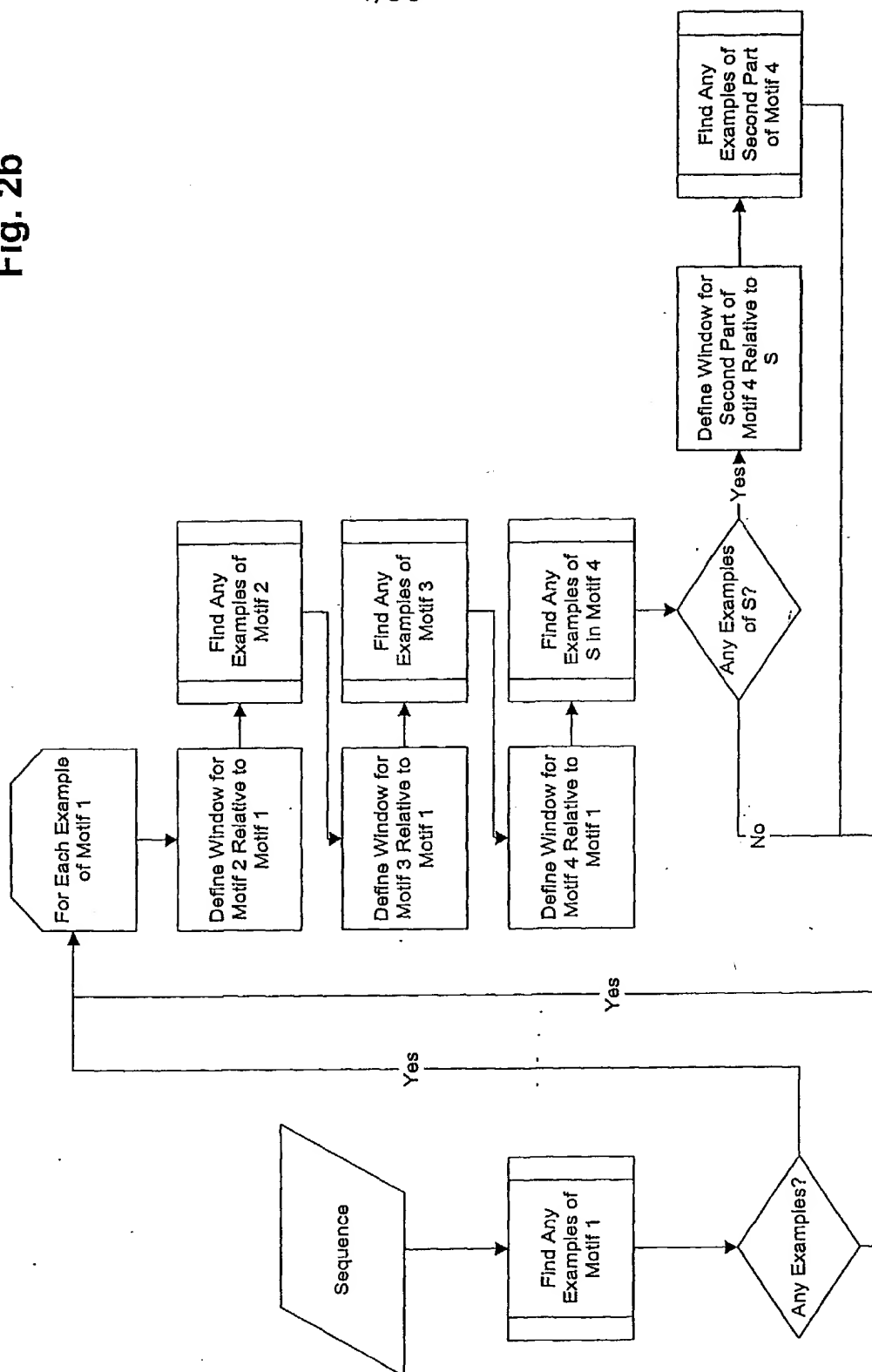
Fig. 2a continued



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Fig. 2b

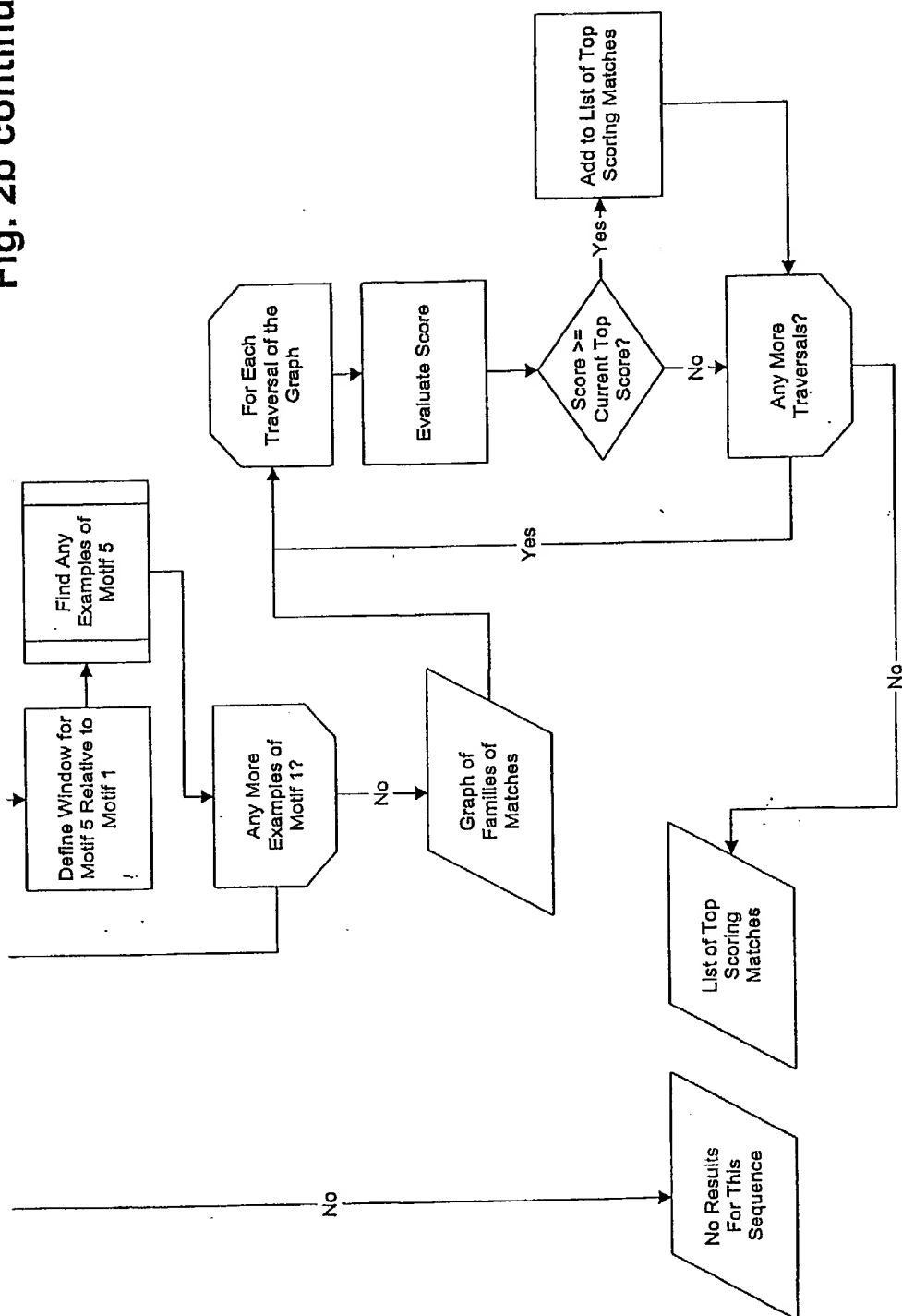
Flowchart for the algorithm



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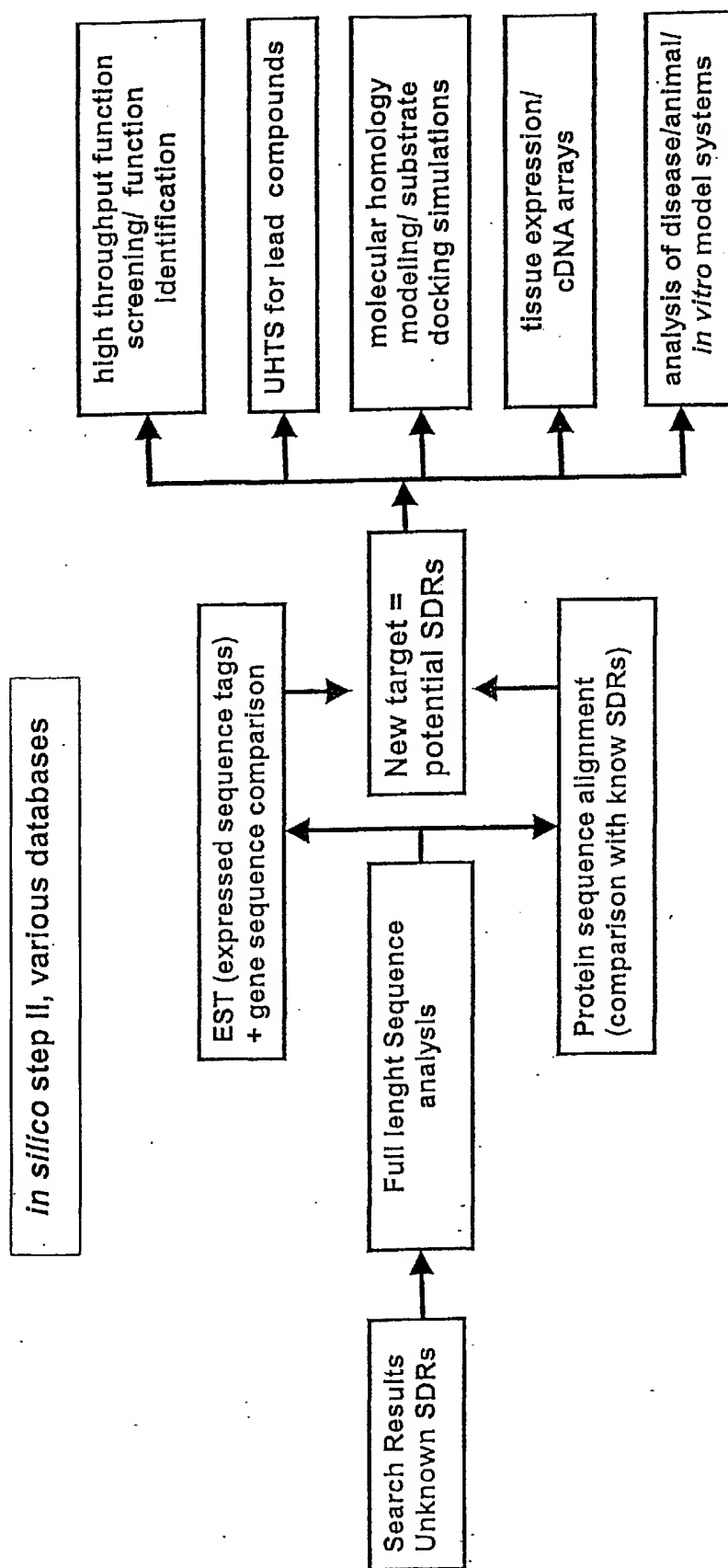
Fig. 2b continued

Flowchart for the algorithm



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Fig. 3



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Fig. 4a-top left

M

¹⁰
M S T F F S D T A W I C L A V P T V L
¹⁰
M E R W P W P S G G A W L L V A A R A

CGI-93
DKFZ-ORF
CR-1
CR-3
SRL
Hep-27
SDH-RDH
RODH4
RDH
9cis-RDH
3beta-HSD-
3beta-HSD-
RDH_ORF
CGI-86
BDH
17beta-HSD
11beta-HSD
CR-AG
11cis-RDH
17beta-HSD

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Fig. 4a-top middle

```

10 20 30 40 50
KLIDYGLSGYQEESEA EVKAMD FITSTAILP L L F G C L G V F G L F - - - - R L L Q W V R - - G K A Y
      10 20 30 40 50
      MVSPATRKSLPKVKAMD FITSTAILP L L F G C L G V F G L F - - - - R L L Q W V R - - G K A Y
                                MSS
                                MSS
                                10
                                MASSGMT - - R R D P
                                20
010 20 30 40 50
MLSAVARQYQGW FHPCARLSVR - - - - MSSTGID - - R K G V
      10 20 30 40 50
      MWLYLAVFVGLY - - - - YLLHWYR - - ERQV
      10 20 30 40 50
      MWLYLAVFVGLY - - - - YLLHWYR - - ERQV
      10 20 30 40 50
      MWLYLA AFVGLY - - - - YLLHWYR - - ERQV
      10 20 30 40 50
      MWLP L L L G A L L W - - - - A V L W L L R - - D R Q S

10 20 30 40 50 60 70
MLFWVLG L L I L C - - - - G F L W T R K - - G K L K
      10 20 30 40 50 60 70
      MNWEL L W L L V L C A L L L L V Q L L R F L R A D G - - - D L T L L W A E W Q G R R P
      10 20 30 40 50 60 70
      GLRPP P G R F S R L P G K T L S A C D R E N G A R R P L L G S - - - T S F I P I G R R T Y A S A
      20 30 40 50 60 70
      CGTVFCKYKSSGQLWSWMVCLAGLC AVCLILSPFWGLILFS - - - V S C F L M Y T Y L S Q Q E
      20 30 40 50 60 70
      LLQLLRSDLR LGRPL L A A L L A A L D W L C Q R L L P P P A A L A V L A - - - A A G W I A L S R L A R P Q
                                M
                                MNF
                                SQL

```

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Fig. 4a-top right

```

LR - - - - - NAVVVT - - - - - ATSLKECAKVFYAA - - - - - AKLVLCGRNNGG
LR - - - - - NAVVVT - - - - - ATSLKECAKVFYAA - - - - - AKLVLCGRNNGG
GI - - - - - HVALV - - - - - GNKI - - - - - LAIVRDCRRLF - - - - - SGDVVLTARDVT
CS - - - - - RVALV - - - - - ANRI - - - - - LAIAREECRQF - - - - - SGDVVLTARDVA
LA - - - - - NKVALV - - - - - ASTDI - - - - - FAIARRAQD - - - - - AHVVVSSRKQQ
LA - - - - - NRVALV - - - - - STSI - - - - - FAIARRARD - - - - - AHVVVSSRKQQ
LSH - - - - - LRDKYVFT - - - - - CDSF - - - - - KLLARQDAR - - - - - LRVLAACLTETK
LSH - - - - - LRDKYVFI - - - - - CDSF - - - - - KLLARQDAR - - - - - LRVLAACLTETK
VSH - - - - - LQDKYVFI - - - - - CDSF - - - - - FNLLARQDAR - - - - - LRVLAACLTETK
LP - - - - - ASNAFVFI - - - - - CDSF - - - - - RLLALQDQK - - - - - SFRVLAACLTETPS
MTGWSCLV - - - - - AGGFL - - - - - QRIIRLVKEKELKEIRVLDKAFGP
MGWSCLV - - - - - AGGLL - - - - - QRIVRLVEEKELKEIRALDKAFRP
IED - - - - - ITDKYIFI - - - - - CDSF - - - - - NLAARTFDKK - - - - - FHVIAACLTES
EWE - - - - - LTMVWV - - - - - ASSI - - - - - EELAYQSKL - - - - - VSLVLSARRVH
AEP - - - - - VGSKAVLV - - - - - CDSF - - - - - FFSLAKHHSK - - - - - FLVFAGCLMKD
LLP - - - - - VDQKAVLV - - - - - GDC - - - - - LHALCKYDEL - - - - - FTVFAGVLNEN
RLP - - - - - VATRAVLI - - - - - CDSF - - - - - FKETAKKDSM - - - - - FTVLATVLELN
ELF - - - - - LAGRRVLV - - - - - AGKI - - - - - RGTVQAHAHAT - - - - - ARVVAVSRTQA
EG - - - - - KIAALV - - - - - ASRI - - - - - RAI AET AAR - - - - - GKVI GTATSEN
QNR - - - - - LRSALALV - - - - - AGSI - - - - - RAVSVRAGE - - - - - ATVAACDLDR

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Fig. 4a-bottom left

17beta-HSD
 17beta-HSD
 RALDH3
 trans-enoy
 DECR
 PGDH
 RALDH2
 11beta-HSD
 CGI-82
 WWOX
 Fvt-1
 17beta-HSD
 Incyte-ORF
 SD
 17beta-HSD
 SEPR
 17beta-HSD
 GALE
 DHPR

10 20 30 40 50
 M A A L R Y A G L D D T D S E D E L P P G W E E R T T K D G W V Y Y A N H T E E K T Q W E H P K T G K R K

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Fig. 4a-bottom right

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PLR - - - - EDGRVVLV10AGA20L20RAYALAF30AER30- - - -40AL40VV40VND40LGGD40
CRS - - - - VKGLVAVI10GAS20L20LATER30VGQ30- - - -40AS40AV40L40DL40PN40S
GTR - - - - YAGKVVV10GGR20I20AGIVRA30FVNS30- - - -40AR40VV40IC40DK40DES
PGL - - - - LQGVAVI10GAT20I20KAI30VKE30LEL40- - - -50SN50VV50IAS50R50KLE50
PNS - - - - FQGVAFI10GGT20L20KGMT30TL30SSL40- - - -50AQ50CV50IAS50R50KMD50
MH - - - - VNGKVALV10AAQ20I20RAFA30EAL30LLK40- - - -50AK50VAL50VDWN50LE50
RKS - - - - VTGEIVLI10AGH20I20RLT30AYEFA40KL40- - - -50KS50KL50VL50WD50INKH50
PEM - - - - LQKKVI10ASK20I20REMA30YH30AKM40- - - -50AH50VV50VTAR50SKE50
TVQ - - - - LPGKV10VV10ANT20I20KET30AKE30AQR40- - - -50AR50VY50LAC50RDVE50
EILQGRDFTGKV10VV10ANS20I20FET30AKS40FALH40- - - -50AH50V50ILAC50RNMA50
PLA - - - - LPGAHV10VV10GSS20I20KCI30AI30ECYK40Q40- - - -50AF50IT50LV50ARNED50
MARTV10VL10I10CSS20I20LHL30AVR30ASD40PS40QS40FK40VY40AT40LR40DLK40
PMN - - - - GQVCV10V10ASR20I20RGI30ALQ30CKA40- - - -50AT50VY50ITGR50HLD50
VGP - - - - GLGEWAV10V10STD20I20KSYA30E30E30AKH40- - - -50MK50VV50LI50SR50SKD50
LRS - - - - MGQWAVI10AGD20I20KAYS30FE30AKR40- - - -50LN50VV50LI50SR50TLE50
GLG - - - - RAVCL10L10ASR20F20RTL30APL30ASL40LSP40SV40LV40LS40ARNDE40
MRKV10VL10I10ASS20I20LALCKR30LABDD40-ELH40LCL40ACRN40MS
MAEKV10VL10I10GAGYI20SHTV30LEA30- - - -40YLP40V40VID40NFHN40
AAG - - - - EARRV10LV10YGRGAL20SRCV30QAF30RAR40- - - -50NW50V50AS50VDV50VEN50

```

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Fig. 4b-top left

CGI-93	- - - - - A ¹⁰⁰ E ⁹⁰ E ¹⁰⁰ I R E ¹⁰⁰ T A S H A T K V Q ¹¹⁰ T H K P Y L V T F ¹²⁰ D ¹²⁰ L T ¹³⁰ S G A I V - - - A A A A E I -
DKFZ-ORF	- - - - - A ⁹⁰ L ¹⁰⁰ E ¹⁰⁰ I R E ¹⁰⁰ T A S H A T K V Q ¹¹⁰ T H K P Y L V T F ¹²⁰ D ¹²⁰ L T ¹³⁰ S G A I V - - - A A A A E I -
CR-1	- - - - - R G Q A A V Q Q ⁵⁰ Q A - - - - - E G L S P R F H Q L ⁶⁰ D ⁶⁰ I D ⁷⁰ L Q S I R - - - A L R D F L -
CR-3	- - - - - R G Q A A V Q Q ⁵⁰ Q A - - - - - E G L S P R F H Q L ⁶⁰ D ⁶⁰ I D ⁷⁰ L Q S I R - - - A L R D F L -
SRL	- - - - - N V D Q A V A T ⁵⁰ Q Q G - - - - - E G L S ⁶⁰ V T G T ⁷⁰ C H V G K A E D R E - - - R L V A M A -
Hep-27	- - - - - N V D R A M A K ⁷⁰ Q Q G - - - - - E G L S ⁸⁰ V A G I ⁹⁰ C H V G K A E D R E - - - Q L V A K A -
SDH-RDH	- - - - - G A ⁷⁰ E ⁷⁰ Q ⁷⁰ R G Q T S D - - - - - R L B T ⁸⁰ V ⁸⁰ T L D ⁹⁰ T K T B S V A A A A - - - Q W V ¹⁰⁰ E C -
RODH4	- - - - - G A ⁷⁰ E ⁷⁰ Q ⁷⁰ R G Q T S D - - - - - R L E T ⁸⁰ V ⁸⁰ T L D ⁹⁰ T K T B S V A A A A - - - Q W V ¹⁰⁰ E C -
RDH	- - - - - G A ⁷⁰ E ⁷⁰ Q ⁷⁰ R G Q T S D - - - - - R L B T ⁸⁰ V ⁸⁰ T L D ⁹⁰ T K M E S I A A A T - - - Q W V ¹⁰⁰ E H -
9cis-RDH	- - - - - G A ⁷⁰ E ⁷⁰ Q ⁷⁰ R G Q V A S S - - - - - G F N T ⁸⁰ T L L D I T ⁹⁰ P Q S F Q Q A A - - - K W V E M H -
3beta-HSD-	- - - - - E ⁵⁰ L ⁵⁰ R E E F S K ⁶⁰ Q N K T K L T V L E G D I L D E P F L K R A C Q D V S V I H T A C I I D
3beta-HSD-	- - - - - E ⁵⁰ L ⁵⁰ R E E F S K ⁶⁰ Q N R T K L T V L E G D I L D E P F L K R A C Q D V S V I H T A C I I D
RDH_ORF	- - - - - G S T A ⁷⁰ K A B T S E - - - - - R L R T ⁸⁰ V ⁸⁰ L L D ⁹⁰ T ¹⁰⁰ P E N V K R T A - - - Q W V ¹²⁰ K N Q -
CGI-86	- - - - - E ⁵⁰ L ⁵⁰ R V K R R C L E N - - - - - G N L K E K D I L V L P L ¹¹⁰ D ¹²⁰ T G S H E - - - A A T ¹³⁰ K A V -
BDH	K G H D - - - G V K E ¹⁰⁰ D S L N S D - - - - - R L R T ¹¹⁰ V Q L N ¹²⁰ F R S E E V E K V V G D - C P F E P E -
17beta-HSD	G P - - - - - G A ¹²⁰ E ¹²⁰ B ¹²⁰ R R T C S P - - - - - R L S V L Q M D I T K P V Q I K D A Y - - - S K V A A M -
11beta-HSD	S P - - - - - G A ¹²⁰ I E ¹²⁰ B ¹²⁰ R T C C S P - - - - - R L R L L Q M D L T K P G ¹⁴⁰ D ¹⁵⁰ I S R L L - - - E F T ¹⁶⁰ K A H -
CR-AG	- - - - - D ⁵⁰ L ⁵⁰ D S ⁵⁰ V R E C P G - - - - - I E P ⁶⁰ V C V D L G ⁷⁰ D W B A T E R A L - - - - -
11cis-RDH	- - - - - G A Q A I S D Y ⁵⁰ G A N - - - - - G K G L M L N ⁶⁰ T ⁷⁰ P A S I E S V L - - - - - E K I -
17beta-HSD	- - - - - A A Q E T V R L ⁵⁰ G G P - - - - - G S K E G P P R G N H A A F Q A D ⁶⁰ V S E A R A A R C L L E Q V -

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Fig. 4b-top middle

```

140 LQCFGYVDILV140 150 ISYR 160 GTIMDT-TVDVD-
130 LQCFGYVDILV140 150 GTIMDT-TVDVD-
80 RKEYGGLDVLV90 100 ADPTPF-HIQA-
80 RKEYGGLNVLV90 100 DDPMPF-DIKA-
110 VKLHGGIDILVS120 130 GSLMDV-TEEVW-
110 LEHCGGVDPFLVCS120 130 GSTLGT-SEQIW-
VRDKG-LWGLV110 120 APNELL-TKQDF-
VRDKG-LWGLV110 120 APNELL-TKQDF-
100 VGDRG-LWGLV110 120 T LCEWL-NTEDS-
100 VKEAG-LFGLV110 120 GPTPWL-TRDDF-
90 VFGVTHRESIMVN100 110 EACVQASVPVFI-
90 VFGVTHRESIMVN100 110 EACVQASVPVFI-
130 VGEKG-LWGLI140 150 APTDWL-TLEDY-
130 LQEFGRIDILV140 150 SLCMDT-SLDVY-
GPEKG-MWGLV160 180 GEVEFT-SLETY-
160 LQDRG-LWAVI160 180 TDGELL-LMTDY-
160 TTSTG-LWGLV80 90 ADABLS-PVATF-
-GSVGPVDLLV80 90 QPFLEV-TKEAF-
90 RAEFFGEVDILV100 110 NLLMRM-KDEEW-
90 QACFSRPPSVVS 100 110 EFLMH-SRDDW-

```

15/30

Fig. 4b-top right

```

170 -KRVMET- -YF-GPVALTKALLPSMIKRR- -Q- - - - -HIVAIIS
160 -KRVMET- -YF-GPVALTKALLPSMIKRR- -Q- - - - -HIVAIIS
110 LEVTMKT- -FF-GTRDVCTELPLIKP- -Q- - - - -RVVNVVS
110 -EMTLKT- -FF-ATRNMCNELPLIMKP- -H- - - - -RVVNIIS
120 -DKTLDI- -VK-APALMTKAVVPEMEKR- -G- - - - -SVVIVS
140 -DKILSV- -VK-SPALLLSQLLPYMENR- -R- - - - -AVILVS
- - - - -VTILDV- -LL-GVIDVTLSSLPLVRKA- -R- - - - -RVVNVVS
- - - - -VTILDV- -LL-GVIDVTLSSLPLVRKA- -R- - - - -RVVNVVS
- - - - -MNMLKV- -LI-GVIQVTLSSLPLVRR- -R- - - - -RVVNVVS
130 -QRVLNV- -TM-GPIGVTLALLPLLQQA- -R- - - - -RVINIT
- - - - -YTSSIE- - - - - - - - - - -VAGPNS
- - - - -YTSSIE- - - - - - - - - - -VAGPNS
- - - - -REPIEV- -LF-GLISVTNLMLPRPQEDQPGQG- - - - -TTLPS
160 -RKLIEL- -YF-GTVSLTKCVLPKHMIEK- -Q- - - - -KIVTVN
170 -KQVAEV- -LW-GTVRMTKSFPLIRRA- -K- - - - -RVVNIIS
190 -KQCMAY- -FF-GTVEVTKTFFPLLRKS- -K- - - - -RVVNVVS
190 -RSCMEV- -FF-GALELTCKGLPLLRSS- -R- - - - -RVVTVG
- - - - -DRSFEV- -LRAVIQVSQIVARGLIARG-VP- - - - -RVVNVVS
110 -NDIET- -LSSVFRLSKAVMRAMMKR- -H- - - - -RVITIG
120 -DKVIAV- -LKGTFLVTQAAQALVSN- - - - -SINIS

```


17/30

Fig. 4b-bottom middle

```

90  LD A F G R I D V V V C 100  I L R D 110  R S F A R I - S D E D W - - -
80  K G K F G R V D V A V C 100  I A V A S K T Y N L 110  K K G Q T H - T L E D F - - -
80  I R R F G R L D C V V C 100  H H P P P 100  Q R P E E T - S A Q G F - - -
100  L D T F G K I N F L V C 100  G G Q F L 120  S P A E H I - S S K G W - - -
100  I K V A G H P N I V I C 100  A G N F I 140  S P T E R L - S P N A W - - -
80  V D H F G R L D I L V C 100  V N N E 100  K N W E K - - -
110  K A E I G D V S I L V C 130  V V Y T 130  S D L F A - T Q D P Q I - - -
110  G K L M G G L D M L I L C 120  H I T N T S L 130  N L F H D D - I H H V R - - -
120  L A E E K H L H V L I C 130  V M M C 140  P Y S K - T A D G F - - -
200  K A K N V P L H V L V C 110  A T F A L 200  P W S L - T K D G L - - -
110  Q E K I L G P V D M L V C 120  M A V S 130  G K F E D L - E V S T F - - -
80  R V T E G R V D V L V C 50  L G L L 100  G P L E A L - G E D A V - - -
90  R E Q Q G R L D V L V C 130  A Y A V Q T I L 140  N T R N K A - F W E T P A - - -
120  L A G L E I G I L V C 130  V M S Y E Y 140  P E Y F L D V P D L D N V I - - -
120  L A G L E I G I L V C 100  V M L P N 140  L L P S H F L N A P D E I - - -
90  R P K G L Q R L L I C 100  S L G D V 120  S K G F V D L - S D S T Q V - - -
80  K Q R F Q R L D C I Y L C 100  I M P N P Q L N I K A L F F G L F S R K V I H M F S T A E G L L T Q G D K I T A D G
80  K K Y S F - - M A V I H F 90  L K A V G 100  E S V Q K P L D Y Y R V N L T G T I Q L L E I
80  - E K V D A I L C V A G G - - W G N A K S - - - K S L F K N - C D L M W - - -

```

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Fig. 4b-bottom right

```

120 -DI IHRVH-- --LRGSFQVTRAAWEHMKKQK--Y-- --R I I M T S
130 -Q R V L D V-- --L M G T F N V I R L V A G E M G Q N E P D Q G Q R-- --G V I I N T A
140 -R Q L L E L-- --L L G T Y T L T K L A L P Y L R K S-- --Q-- --N V I N I S
150 -H A V L E T-- --L T G T F Y M C K A V Y S S W M K E-- --H-- --S I V N I I
160 -K T I T D I V-- --L N G T A F V T L E I G K Q L I K A Q-- --K-- --A A F L S I T
170 - --T L Q I-- --L V S V I S G T Y L G L D Y M S K Q N G G E-- --G-- --I I I N M S
180 -E K T F E V-- --V L A H F W T T K A F L P A M T K N N-- --H-- --H I V T V A
190 - --K S M E V-- --F L S Y V V L T V A A L P M L K Q S-- --N-- --S I V V V S
200 -E M H I G V-- --H L G H F L L T H L L L E K L K E S-- --A P S-- --R I V N V S
210 -E T T F Q V-- --H L G H F Y L V Q L L Q D V L C R S A P A R V I V V S S E S-- --H R F T D I N
220 -E R L M S I-- --Y L G S V Y P S R A V I T T M K E R R-- --V-- --R I V F V S
230 -A S V L D V-- --V V G T V R M L Q A F L P D M K R R G-- --S-- --R V L V T G
240 -S M W D D I-- --N V G L R G H Y F C S V Y G A R L M V P A G-- --Q-- --L I V V I S
250 -K K M I N I-- --I L S V C K M T Q L V L P G M V E R S-- --K-- --A I L N I S
260 -Q S L I H C-- --I T S V V K M T Q L I L K H M E S R Q-- --K-- --L I L N I S
270 -N N Y W A L-- --L T S M L C L T S S V L K A F P D S-- --P-- --L N R T V V N I S
280 -L Q E V F E T-- --V F G H F I L I R E L E P L L C H S D-- --N P S-- --Q L I W T S
290 -M K A H G V K-- --L V F S-- --T I S S H L A T K H L K E G-- --S--
300 -K Q S I W T S-- --T I S S H L A T K H L K E G-- --L L T L A G

```


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Fig. 4c-top middle

```

210  - - - - - S A A S H A - - - - - T Q A F F D C C L R A E M E Q - - - - - Y E I E V T V I S - - - - - Y I - - - H
210  - - - - - S A A P H A - - - - - T Q A F F D C C L R A E M E Q - - - - - Y E I E V T V I S - - - - - Y I - - - H
180  T K K G V H Q K E G W P S S A G V T I G - - - - - V T V L S R I H A R K L S E - Q R K G D K I L L N A C C - - - - - W V R T D
180  T K N E V H E R E G W P N S P G V S L G - - - - - V T V L S R I L A R R L D E - K R K A D R I L L V N A C C - - - - - P V K T D
- - - - - S P N V S T A - - - - - L L G L T K T L A I E L A P - - - - - R N I R V N C L A - - - - - L I - - - K
- - - - - G V N V S T A - - - - - L L G L T R T L A L E L A P - - - - - K D I R V N C V V - - - - - I I - - - K
- - - - - G G C I S Y G - - - - - V E A F S D S L R R E L S Y - - - - - F G V K V A M I E - - - - - Y F - - - K
- - - - - G G C I S Y G - - - - - V E A F S D S L R R E L S Y - - - - - F G V K V A M I E - - - - - Y F - - - K
- - - - - G G C V S Y G - - - - - V E A F S D I L R R E I Q H - - - - - F G V K I S I V E - - - - - Y F - - - R
- - - - - G G C V S F G - - - - - L E A F S D S L R R D V A H - - - - - F G I R E S I V E - - - - - F F - - - R
- - - - - P A P P H S K L A E K A V L A A N G W N L K N G G T L Y T C A L R P M Y I Y G E G S R F L S A - - - - -
- - - - - P T P P Y S K L A E K A V L A A N G W N L K N G D T L Y T C A L R P T Y I Y G E G P F L S A - - - - -
- - - - - G G T P S Y A - - - - - V E G F N D S L R R D M K A - - - - - F G V H V S C I E - - - - - L F - - - K
- - - - - I G C A S H A - - - - - L R G F F N G L R T E L A T - - - - - Y P G I I M S N I C - - - - - P V - - - Q
- - - - - S P C I T F G - - - - - V E A F S D C L R Y E M Y P - - - - - L G V K V S V V E - - - - - N F I A A
- - - - - A S G S A A - - - - - V T M P S S V M R L E S K - - - - - W G T K V A S I Q - - - - - G F L T N
- - - - - G A G T S A A - - - - - V A L L M D T F S C E L L P - - - - - W G V K V S I I Q - - - - - C F K - T
- - - - - S V C S T G A - - - - - L D M L T K V M A L L E L G P - - - - - H K I R V N A V N - - - - - T V V - - M
- - - - - A N A A A G - - - - - L I G F S K S L A R E V A S - - - - - R G I T V N V V A - - - - - F I - - E
- - - - - T N A A S A G - - - - - V I G L T Q T A A R E L G R - - - - - H G I P C N S V L - - - - - F I - - A

```

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Fig. 4c-top right

²⁵⁰TNLS²⁵⁰ - - - - - VNAITADGSR²⁶⁰ - - - - - YGVMDTTTAQA²⁷⁰AEAL²⁸⁰ - WRWPRMF²⁸⁰
²⁵⁰TNLS²⁵⁰ - - - - - VNAITADGSR²⁶⁰ - - - - - CGVMDTTTAQGRSP²⁷⁰ - VEV²⁷⁰AQDV²⁷⁰
²⁴⁰MAGPKATKSP²⁴⁰ - EEGAETPV²⁵⁰ - - YLALLPPDAE²⁶⁰PHGQFVSEKRV²⁷⁰EQW²⁷⁰ - - -
²⁴⁰MDGKDSIRTV²⁴⁰ - EEGAETPV²⁵⁰ - - YLALLPPDATEPQ²⁶⁰QLVHDKV²⁷⁰VQNW²⁷⁰ - - -
²⁰⁰TSFS²⁰⁰ - - - - - RMLWMDKEKE²¹⁰ - - - - - ESMKETLRIRRLGE²²⁰PBDCAGIV²³⁰
²²⁰TDFS²²⁰ - - - - - KVFHGNESLW²³⁰ - - - - - KNFKEHHQLQRIGE²⁴⁰SBDCAGIV²⁵⁰
²²⁰TAVTSKE²²⁰ - - - - - RFLKSFL²³⁰EIWDRSSPEVKEA²⁴⁰YGEKFFVADYKKS²⁵⁰AEQM²⁵⁰
²²⁰TAVTSKE²²⁰ - - - - - RFLKSFL²³⁰EIWDRSSPEVKEA²⁴⁰YGEKFFVADYKKS²⁵⁰AEQM²⁵⁰
²¹⁰TGMTNMT²¹⁰ - - - - - QSLERMKQSWKEA²²⁰PKHIKET²³⁰YGGQYFDALYNIMKEG²⁴⁰
²¹⁰TPVTNLE²¹⁰ - - - - - SLEKTLQACWARLPPATQ²²⁰AHYGGAFLTKYLKMQQRI²³⁰
²⁰⁰SINEAL²⁰⁰ - - - - - NNNGILSSVG²¹⁰ - KFSTVNPVYVGNVAWAHILALRALQD²²⁰
²⁰⁰SINEAL²⁰⁰ - - - - - NNNGILSSVG²¹⁰ - KFSTVNPVYVGNVAWAHILALRALRD²²⁰
²⁴⁰TN²⁴⁰LADPV²⁴⁰ - - - - - KVI²⁵⁰EKKLAIWEQLSPDIKQYGE²⁶⁰GYIEKSLDKLKGN²⁷⁰
²⁴⁰SNIV²⁴⁰ - - - - - ENSLAGEVTK²⁵⁰ - - - - - TIGNNGDQSHKMTTSRCVRLM²⁶⁰
²⁵⁰TSLYNPE²⁵⁰ - - - - - SIQAI²⁶⁰AKKMWEELPEVVRKDYGKKYFDEKIAKMETY²⁷⁰
²⁷⁰IAGTS²⁷⁰ - D - - - - - KWEKLEKDIL²⁸⁰DHLP²⁹⁰AEVQEDYGGDYILAQRN³⁰⁰FLLLI³¹⁰
²⁷⁰ESVRNVG²⁷⁰ - - - - - QWEK²⁸⁰RKQLLLANLPQ²⁹⁰ELLQAYGKDYIEHLHGQFLHS³⁰⁰
¹⁵⁰TSMG¹⁵⁰ - - - - - QATWSDPHKA¹⁶⁰ - - - - - KTM¹⁷⁰LNRIPLGKFAEVEHV¹⁸⁰VNAI¹⁹⁰
¹⁵⁰TDMT¹⁵⁰ - - - - - RALSDDQ¹⁶⁰RAG¹⁷⁰ - - - - - ILAQV¹⁸⁰PAGRLGGAQEIANAV¹⁹⁰
²¹⁰TPMT²¹⁰ - - - - - KKV²²⁰PKKVVDK²³⁰ - - - - - ITEMIPMGHLGDPEDVDV²⁴⁰

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Fig. 4c-bottom middle

```

--AN--SIA--LG--170--LLGLANS--LAI--BGRK--180--SNLHCNT--E--NAG--S--190
--AA--S--S--GG--170--IVGMTLP--I--ARD--LAP--180--IG--IRVMT--IA--LFG--T--190
--VP--VAT--GA--180--VTAMTKA--L--ALDESP--190--YGV--RYNCIS--ANI--W--200
--GV--NLT--SL--180--ALEWACS--200--G--IR--INCV--A--VIYSQ--210
--GVE--AMS--SL--200--AAEWGKY--170--GMR--FN--VI--Q--PIKTK--240
--PV--CA--S--HG--190--IVGFT--RSA--LA--ANLMN--S--GV--RL--NA--IC--FVNTA--210
--LA--CS--S--FA--190--AVGFHKT--L--TD--E--LAALQIT--GV--KT--TCLC--NFV--N--220
--AA--S--S--FA--200--LDGFF--SSI--RK--E--YSVSR--VN--YSIT--LCVL--LIDTE--230
--LA--CH--S--LA--210--NILET--QE--L--ARR--LKG--S--GV--TT--YSVH--TV--Q--240
--LA--NR--S--LC--200--NILEFS--NE--L--HRR--LSP--R--GV--TS--N--AVH--NMMYS--250
--AA--S--S--FA--190--IRGLA--EA--L--QM--E--VKP--Y--N--VYIT--VAY--PDT--DTP--260
--DV--CA--S--FA--180--LEG--LCS--L--AV--L--LLP--F--GV--HL--SL--IEC--PVHTA--270
--VP--GV--G--AA--170--CDK--LAADCA--H--ELRR--H--GV--SCV--SLW--IVQTE--280
--TI--S--T--TF--200--VDF--FSQC--L--HE--E--YRS--K--GV--FY--Q--SVL--YFVATK--290
--SM--S--S--AF--170--VCA--FSK--AL--QE--E--YKA--KEV--IIQVLT--YAV--S--300
--AL--CA--G--AA--180--RDMLF--QV--L--AL--E--EPN--VRV--LNYA--PL--D--310
--EP--S--S--Y--FA--190--TDLLS--VA--L--NRN--FNQ--Q--GLY--SNV--AC--TALTN--320
--P--GK--S--FF--160--IEEMI--RD--L--CQ--ADKTWN--V--VLL--RYFNPT--AHASG--330
--IG--GMA--GA--150--VHQLC--QS--L--AGK--NSG--MP--AAAIA--340

```

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Fig. 4c-bottom right

190 200 210 220 230 240
 RMTQ - - - - - TV-MPBDLVE - - - - - ALKPBYVAPLVWLCHBSCEE
 PLT - - - - - SLPEKVCNFL - - - - - ASQVFPFSLGDPABEYHLV
 190 200 210 220 230 240
 PLWEEL - - - - - AALMPDPRAS - - - - - IREGMLAQPLGRMGQPAEVBG
 200 210 220 230 240
 TAVEN - - - - - YGSWGSFFEG - - - - - SFQKIPAKRIGVPPBEVSSVV
 200 210 220 230 240
 GAFS - - - - - RLDPTGTFEK - - - - - EMIGRIPCGRLGTVVEELNLA
 190 200 210 220 230 240
 LBSIEK - - - - - EENMGQYIEYK - - - - - DHIKDMIKYYGILDPPLIANGNL
 200 210 220 230 240
 GFINKP - - - - - STSLGPTLEP - - - - - EENVNRLMHGILTEQKMI FIPS
 200 210 220 230 240
 AMKAVS - - - - - GIVHMQAAPK - - - - - EECALBEIKGGALRQBEEVYDS
 200 210 220 230 240
 SELVRHS - - - - - SFMRWMWWLFS - - - - - FFIKTPQQGAQTSLHCALTEGL
 200 210 220 230 240
 NIHRSWW - - - - - VYTLFLTAR - - - - - PFTKSMQQGAATTVYCAAVPEL
 200 210 220 230 240
 GFABEENR - - - - - TKPLETRLISETTSVCKPBQVAKQIVKDAIQGNFNS
 200 210 220 230 240
 FMEKVLGSPBEVLDRTDIHTFHRFYQYLAHSKQVFRBAAQNPEEVAEVF
 200 210 220 230 240
 LKBEHMAK - BEVLQDPVLKQFKSAFSSAETTELSGKCVVALATDPNLS
 200 210 220 230 240
 LAKIR - - - - - KPTLDKPSPE - - - - - TFFVKSATKTVGLQSRNGL
 200 210 220 230 240
 TAMT - - - - - KYLNTNVITKT - - - - - ADEFFVKESLNYVTIGGETCGCL
 200 210 220 230 240
 TDMQ - - - - - QLARETSVDP - - - - - DMRKGLQBELKAKGLVDCKVS
 200 210 220 230 240
 LTYGILP - - - - - PFIWTLMPAII LLLRFFANAF TLTYPYNGTEALVWLF
 200 210 220 230 240
 CIGEDPQGI PNN - LMPYVSQVAIGRR - EALNVFGNDYDTE DGTGVRDYI
 190 200 210 220 230 240
 VLPVTL - - DTPMNRKSMPEADFS - - - - - SWTPLEFLVET FHDWITGKN

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Fig. 4d-top middle

[illegible]

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Fig. 4d-bottom left

17beta-HSD	240	230	260	270	280	
	NGG	FEV	GAG	WIG	KLR	WERTLGAIVRQKNHPMTPEAVKANWKKICDFENASK
17beta-HSD	240	250	260	270	280	
	QAI	IEN	PFL	NGE	VIR	LDGAI RMQP
RALDH3	230	240	250	260	270	
	AAV	FLA	SEAN	FCT	GIE	LLVTGGABELGYGCKASRSTPVDAPDIPS
trans-enoy	230	240	250	260	270	
	C-F	L	S	P	A	ASFITGQSVDDGGRSLSYTHSYBVPDHDNDWPKGAGDLSVVKKMK
DEC	230	240	250	260	270	
	A-F	C	S	D	Y	ASWINGAVIKFDGGEEVLISGEFN-DLRKVTKEQWD TIEELIR
PGDH	230	240	250	260	270	
	ITL	I	EDD	ALNG	AIM	KITTSKGIHFQDYDTTPFQAKTQ
RALDH2	230	240	250	260	270	
	S-I	A	FL	TT	LER	ILPERFLAVLKRKISVKFFDAVIGYKMAQ
11beta-HSD	230	240	250	260	270	
	SLW	T	LL	IR	NP	CRKILEFLYSTSYNMDRFINK
CGI-82	230	240	250	260	270	
	EIL	SG	NH	FSD	CH	VAVSAQARNETIARRLWDVSCDLLGLPID
WVOX	230	240	250	260	270	
	EGL	GM	YFN	NC	RC	MPSPBEAQSEBTARTLWALSERLIQERLGSQSG
Fvt-1	230	240	250	260	270	
	SLG	SD	GY	ML	SALT	CGMAPVTSITBGLQQVVTMG-LFRTIALFYLGSDSIVR
17beta-HSD	230	240	250	260	270	
	LTA	RA	AP	KPT	TL	RYFTTTERFLPLLRMRLLDDPSGSNYVTAMHREVFCDVPAKAE
Incye-ORF	230	240	250	260	270	
	LSG	KV	LP	SC	DL	ARRYGLRDVDGRPVQDYLSLSVLSHVSGLGWLASVLPSTL
SD	230	240	250	260	270	
	IHA	MG	SI	IS	NL	PSWIYLIKIVMNMNKSTRAHYLKKTKKN
17beta-HSD	230	240	250	260	270	
	AHE	I	L	AG	FL	SLIPAWAFYSGAPQRLLLTHYVAYLKLNTKVR
SEPR	230	240	250	260	270	
	AQK	L	L	L	L	LEKDEFKSGAHVDFYDK
17beta-HSD	230	240	250	260	270	
	HQK	PE	S	L	N	PLIKYLSATTGFORNYIMTKMDLDBDTABKFFYQKLLLEKHIR
GALE	230	240	250	260	270	
	HVVD	LAK	GHI	AAL	RKL	KECCG-CRIYNLGTGTG-YSVLQMVQAMEK
DHPR	230	240	250	260	270	
	R-P	SS	GS	L	I	QVVTTTEGRTELT PAYF

29/30

Fig. 4d-bottom middle

```

PQSIQ - - - - - 200 - - - - - 300 - - - - -
- - - - - - - - - - - 270 - - - - -
- - - - - - - - - - - 280 - - - - -
BTKEKAKL - - - - - 310 - - - - - 350
KTKGS - - - - - 340 - - - - - 380
- - - - - 270 - - - - - 310 - - - - -
- - - - - 300 - - - - - 340 - - - - -
- - - - - 320 - - - - - 360 - - - - -
- - - - - 420 - - - - - 340 - - - - -
RCMMQREKSENADKTA - - - - - 330 - - - - -
AGAEAGGGAGCPGAEDAEAGRSAVGDPPELGDDPPAPQ - - - - - 330
RVPKWIIALYTSKF - - - - - 310 - - - - - 320
- - - - - 320 - - - - - 330 - - - - -
- - - - - 370 - - - - - 380 - - - - -
VTIQKTDNQARLSGSL - - - - - 340 - - - - -
ASGKKIPYKVVARREGDVAACYANPSLAQEELGWTAAALGLDR - - - - - 310
- - - - - 320 - - - - - 330 - - - - -

```

